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ABSTRACT

This practicum report describes the development and implementation of a middle school program in King and Queen County in Virginia's Middle Peninsula designed to improve the achievement of sixth-, seventh-, and eighth-grade students whose achievement scores were consistently lower than national and state averages. A literature review and interviews were conducted as a basis for discussion of the problem and presentation of intervention strategies. Solution strategies included: (1) implementation of in-service training designed to increase teachers' and administrators' knowledge of effective instructional practices appropriate for middle school students; (2) development and implementation of curriculum guides in mathematics and science for grades 6-8; and (3) establishment of regular meetings to improve the continuity of the middle level program. Terminal objectives were achieved in reading for grades 6-8 and in mathematics and science for 8th grade. Sixth through eighth grade achievement scores increased from March, 1988 to March, 1989. Curriculum guides in mathematics and science for grades 6 through 8 were developed and used. In-service training workshops were conducted and grade-level "articulation meetings" were held on a regular basis. (RH)

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DEVELOPING AND IMPLEMENTING A MIDDLE SCHOOL PROGRAM TO IMPROVE THE ACHIEVEMENT OF STUDENTS IN GRADE SIX THROUGH GRADE EIGHT

BY

ALPHEUS ARRINGTON, JR.

MARP REPORT

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DEVELOPING AND IMPLEMENTING A MIDDLE SCHOOL PROGRAM TO IMPROVE THE ACHIEVEMENT OF STUDENTS IN GRADE SIX THROUGH GRADE EIGHT

by

* Alpheus Arrington, Jr.

Submitted in partial fulfillment of the requirements of the National Ed.D. Program for Educational Leaders

NOVA UNIVERSITY

Major Applied Research Project Report
Richmond Cluster II-B
Submitted: July 3, 1989

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Abstract

AUTHOR: Alpheus Arrington, Jr. CLUSTER: Richmond II-B
DATE: July 3, 1989 PRACTICUM: Major Applied Research Project

TITLE: Developing and Implementing a Middle School Program to Improve the Achievement of Students in Grade Six Through Grade Eight

ABSTRACT: This report describes the development and implementation of a middle school program in order to improve the achievement of students in grades 6-8 in the King and Queen County School Division. Achievement scores were consistently below national and state averages on nationally normed tests. This disparity had been documented for the 1985-1987 school years.

Probable causes of the low achievement scores were identified as: the lack of a sequential curriculum for grades K-12, the structure and organization of the school division, and the weakness of teachers' skills in grades 6-8 for working with the middle school student. A review of the literature and interviews were conducted as a basis for discussing the current status of the problem and to present possible intervention strategies. Several solution strategies were utilized. They included: implementing inservice training programs to increase teachers and administrators knowledge of effective instructional practices for working with middle school students, the development and implementation of curriculum guides in math and science for grades 6-8, and establishment of regular grade 6-8 meetings to improve the continuity of the middle level program.

Terminal objectives were achieved in reading for grade six through grade eight and in grade eight math and science. In addition, all intermediate outcomes objectives were achieved as projected. By so doing, the school division achieved the following: sixth through eighth grade achievement scores increased from March 1988 to March 1989, grades 6-8 curriculum guides in math and science were developed and implemented, inservice training workshops were conducted concerning instructional strategies for teachers to better meet the needs of adolescent students, and grade level articulation meetings were established and held on a regular basis.

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Chapter 1

PROBLEM STATEMENT AND COMMUNITY BACKGROUND

General Statement of Problem

As Assistant Superintendent for Instruction for the King and Queen County School Division, the writer was naturally concerned with the achievement of students on nationally normed referenced tests.

The Science Research Associates (SRA) national achievement test administered to grade 1-11 students in the school system during the past three years indicated that although there had been improvement in student academic achievement in general, student achievement at the middle level grades (6-8) continues to decline.

Description of Immediate Problem Context

The King and Queen County School Division has an enrollment of 844 students as of October 31, 1988 in grades K-12. There are two elementary schools which house grades K-7, and one high school for grades 8-12. The two elementary schools are approximately 25 miles apart. There is no middle school in the school system.

The county's two elementary schools are King and Queen Elementary and Lawson-Marriott Elementary School which are organized in grades K-7. There are two classes at each grade level in both schools. At both schools, grades K-5 are completely self-contained, with the regular classroom teacher responsible for all content area instruction. Grade six, at Lawson-Marriott, is semi-departmentalized. At this grade level, one teacher has the responsibility for teaching reading and language arts while the other teacher provides instruction in math, science, and social studies. Grade seven at this school is self-contained. At King and Queen Elementary School grades six and seven are departmentalized.

King and Queen Elementary School has approximately 301 students in grades K-7. The school administration consists of one full-time principal. Lawson-Marriott Elementary has approximately 284 students. This school has two buildings which are located 3/4 of a mile apart. The newest building, Lawson, houses grades K-3, and the Marriott building houses grades 4-7. The one principal for the entire school has an office in the Lawson building and receives administrative assistance from a designated Head Teacher in the Marriott building.

In addition to regular classroom instruction, at the elementary level, the school division provides resource teachers in music, art, and physical education. Each of the elementary schools also has a Chapter I reading specialist,

a Chapter I aide, and a full-time librarian. The school board provides for one kindergarten aide at each elementary school.

King and Queen Central High School houses grades 8-12. The October 31, 1988 enrollment was 303 students. The administrative staff includes one principal, one assistant principal, and a guidance counselor. The central office staff consists of the Division Superintendent, the Assistant Superintendent for Instruction, one school psychologist, a home-school coordinator, and three secretaries.

Special education services that are also provided include: LD resource and self-contained classes in grades K-12, an EMR class at the elementary level and one at the high school, an ED class at the high school, speech services for grades K-12, and a pre- school handicapped class.

The King and Queen County Annual Report data for 1984-87 indicate a steady decrease in total school enrollment particularly in grades 8-11. The drop-out rate for the 1984-85 school year was 4 percent, 7 percent for 1985-86, 4 percent for 1986-87, and 3.5 percent for 1987-88. Annual school reports for the 1984-85 school year indicate 25 percent of the eighth graders were retained, while only six percent of that same class were retained as seventh graders. In 1985-86, 32 percent of the eighth graders were retained as opposed to only seven percent of this same class being retained in the 7th grade. Finally, for 1986-87, 30 percent of the eight grade students were retained while only five

percent of this class was held back in grade seven. (Appendix A: 118-120)

Description of Surrounding Community

King and Queen County was formed from New Kent County in 1691 and was named for King William and Queen Mary of England. It is a rural county, 80 miles in length, located on Virginia's Middle Peninsula. King and Queen Court House, the county seat, is located near the center of the county, 40 miles northeast of Richmond, 55 miles north- west of Hampton Roads, and 120 miles south of Washington, D.C.

The county's economy is based largely upon agriculture which involves the production of small grains, livestock, and dairy products. The sale of forest products from the abundant forests in the county also contributes to the county's economic base. The forests produce the county's main product of pulpwood. This product is then transported to the Chesapeake Corporation in West Point, Virginia for processing. Of the 203,554 acres in King and Queen County, a total of 158,143 acres are commercial forests. All forest land, except for 400 acres which are public, is privately owned. (King and Queen County Virginia: An Economic Study, 1974)

The 1985 Census data recorded the county's population at 6000, a ten percent increase over 1980 figures. Per capita income is $9,500.00. Approximately 30 percent of the adult population has less than an eighth-grade education.

Education for King and Queen County's youth has been provided almost since the county's formation. The public schools were combined with those of King William County and the Town of West Point until July 1, 1971, when legislation was enacted by the 1971 General Assembly establishing King and Queen County as a separate school division.

Seventy percent of the teachers in King and Queen live outside the county. Many commute from Richmond, Gloucester, West Point, and Williamsburg.

Regional and National Contexts of Problem

A 1980 national survey of principals of both junior high schools and middle schools found that 54 percent of the respondents, regardless of their own particular school organization, considered the grade 6-8 concept (which only 15% had) as ideal for the middle level grades. Only 17 percent preferred the grade 7-8 plan. This was a reversal of a comparable survey conducted in 1966, when 65 percent of the principals favored the then dominant grade 7-9 plan and only 18 percent favored the grade 6-8 plan. In addition, 25

states now have some form of middle school certification and nine states have such certification as mandatory. In 1969, only two states had this type of certification (Alexander and McEwin, 1986).

Middle level education has now become a curriculum, not merely a building, a schedule or a combination of grades. What a school is called -- elementary school, middle school, junior high school is not important. The program that is provided is important. The program developed should focus on the developmental needs of adolescents. During this time when the development of children between the ages of 10-15 is characterized by diversity, educators should take into consideration the middle school students' learning styles and rates of progress. Teacher expectations of students should be measured with individual stages of readiness during periods of growth, plateau, and readiness. This has become an important focus of middle level education. (Lawton,1987)

The instructional approach for the adolescent must be different. While content area teachers of middle and secondary students have traditionally relied upon whole group instruction, lecture, independent seatwork, and homework as their primary focus of instruction, recent research studies have indicated that this is not the most effective means of meeting the needs of students. (Sirotnik,1983)

Results from a 1986 study of the national, average reading-proficiency of grade seven students indicated that the national average percentile was 49. White students' performance was slightly higher than minority students. For example, white students mean reading proficiency score was 50 while black and hispanic students mean score was 45. In addition, disadvantaged, urban students scored at 44 while advantaged, seventh grade urban students scored at the 52 percentile (Applebee, et.al, 1988).

A national study of reading achievement of eighth grade students for the 1983-84 school year indicated that the average scaled score was 257.3. Scaled scores, in this study, were evaluated at certain performance levels. The following defines each level:

Scaled Score	Abilities
300 - Adept	able to find, understand, summarize, and explain complicated literary and informational material
250 - Intermediate	able to search for specific information, interrelate ideas, and make generalizations
200 - Basic	able to understand, combine ideas, and make inferences based on short, easy passages
150 - Rudimentary	able to follow written directions and select phrases to describe pictures

The average score of all eighth graders was slightly higher than the intermediate level. White students had an average scaled score of 263 while minority students had an average score of 238. (Snyder, 1987)

According to the National Assessment of Educational Progress, the mathematics achievement of eighth grade students increased from the 57th percentile in 1977-78 to the 61st percentile in 1981-82. Although black and hispanic students had a greater percentage increase,their performance levels were still below achievement scores obtained by white students. (Snyder, 1987)

This same national study of educational progress indicated that science achievement of eighth grade students has decreased overall by one percentile point from 1976-1977 to 1981-1982. Black students demonstrated an increased achievement in science content, inquiry, and technology; white students' scores in science inquiry and content decreased. However, the overall achievement of eighth grade, white students was higher then that of black students. For example, while black students had increased in science content and white students had decreased, the scores for black students were eleven points lower than those for whites. (Snyder, 1987)

A 1984 national study on dropouts indicated that the national attrition rate for ninth graders in 1984 was 29 percent. The rates for large urban schools and problem urban schools were 40-45 percent and 55-65 percent

respectively. Dropping-out was undeniably more likely for those students who showed low academic achievement on standardized tests and for those who achieved low grades in school. About one-half of the students maintaining "D" averages or lower typically drop out. (Catterall, 1986)

The most distressing aspects of these studies was the relative poor performance of students from at-risk minority groups and from disadvantaged urban communities. American schools continue to experience difficulty narrowing the gap between the performances of higher and lower achieving students as they move through the middle grades.

Chapter 2

PROBLEM DEFINITION AND EVIDENCE

Problem Background

The King and Queen School System has three schools, two elementary schools and one high school. King and Queen Elementary School houses grades K-7 located in one building. Lawson-Marriott Elementary School has two buildings. Lawson, for grades K-3, and Marriott, located 3/4 of a mile from the Lawson building, houses grades 4-7. The high school houses grades 8-12 on one campus. The present physical structure, which separates grades 6-7 from grade 8, does not readily provide for the continuity of instruction in these important grades.

The Virginia State Standards of Learning (SOL's), for all content subject areas had been incorporated into the K-12 curriculum. Teachers had been required to document in their lesson plans which of the objectives had been taught; teachers recorded mastery level of the objectives and the date mastered in students' cumulative folders. These objectives along with the basal textbooks had served as the primary curriculum for the entire school system. There were no locally developed curriculum guides for language arts, social studies, health, math in grades 5-12, or science in grades 5-12.

Curriculum guides for science and math, in grades K-4, were completed in August of 1987 and implemented during September. The science department chairman at the high school had been provided a period daily for the purposes of assisting the elementary schools in implementing the new science curriculum and coordinating the elementary and high school science programs. There had not been any other type of curriculum coordination between the elementary and high school levels. In addition, no inservice training programs had been provided for teachers in grades 6-8 with respect to working with middle school level students.

Evidence of Problem Discrepancy

The Science Research Associates (SRA) National Achievement Test had been utilized by the King and Queen County School System to test achievement in the content subjects of reading, mathematics, language arts, social studies, and science for grades 1-11. In addition, the Educational Ability Series (EAS), which is a short test of educational ability, had also been administered as a part of the SRA testing program. The test results showed improvement in student achievement, especially for the 1986-87 school year. (Appendix B: 121)

However, test result averages for the 1985-1987 school years indicated that students in the middle grades (6-8), had consistently had a decline of achievement in reading, language arts, social studies, and science. (Table 1)

Analysis of all test results, grades 1-11, indicated the existence of a problem between grades 5-8. For example, achievement result averages for this three year period in grades 1-3 had shown very little change. Although there was a decline in mathematics, the composite score of achievement (R-M-L) varied only slightly. During this same three year period, grade 3 through grade 5 achievement score averages demonstrated increased achievement in reading and mathematics. Conflicting with the above data were the achievement scores for students who moved from grade five through grade eight for the same school years. These achievement averages indicated a decline in every subject area with the exception of grade seven.

Further analysis of achievement scores also indicated that test scores had significantly declined as students moved from grade five to grade six and from grade seven to grade eight. For example, reading scores for fifth grade students in 1985 were at the 65th percentile, while these same students in sixth grade (1986) scored only at the 44th percentile. Similarly, seventh grade students in 1985 scored at the 45th percentile in reading and as eighth graders in 1986 they only scored at the 36th percentile. (Appendix B: 121)

Table 1

Achievement Test Percentiles on the Science Research Associates (SRA) National Achievement Test for the 1985-87 School Years

Grade	Reading	Math	Lang Arts	R-M-L	Social Studies	Science	Educational Ability Score
1	54	64	---	60	---	---	58
2	44	67	---	60	---	---	49
3	44	48	62	55	---	---	48
4	44	45	47	47	45	43	44
5	59	59	61	58	59	53	53
6	45	46	50	49	48	53	46
7	49	63	58	58	63	62	51
8	39	50	47	45	39	42	46
9	37	52	47	44	41	42	48
10	30	43	40	35	32	33	42
11	30	40	43	36	28	35	30

In addition, although student achievement scores for grades 9-11 showed very little decline from the eighth grade scores, it was evident that the achievement lost during the middle grades was never regained. (Table 1)

The improvement in student achievement scores had not been reflected in student performance in certain content subjects at the high school (grades 8-12). For example, although there had been improvements in grade seven achievement scores, 30 percent of these same students, as eighth graders, were retained for the 1986-87 school year. (Appendix A: 118-120) In addition, the grade distributions for the first six-week term of the 1987-88 school year indicated that a very high percentage of eighth and ninth grade students received D's or failing grades in English, math and science (approximately 55%, 40%, and 50% respectively). (Table 2)

Table 2

Grade Distribution Percentages (F's D's) from the First Grading Period of 1987-88 for Grades Eight and Nine

Subject	Grade	Percentage of Total Enrollment per Subject
English 8	F	37%
	D	18%
English 9	F	25%
	D	17%
Math 8	F	28%
	D	16%
Math 9	F	20%
	D	15%
Applied Science 8	F	26%
	D	28%
Physical Science 8	F	27%
	D	24%
Earth Science 9	F	31%
	D	18%

SAT scores for the 1986-87 school year showed an increase from 300 to 360 in the verbal area and from 312 to 390 in math. Although this represented a significant increase, the scores represented the lowest among the

surrounding school divisions, as reported in a local newspaper article and were below state and national averages. (Appendix C: 122)

The Director of the Reading Center at the University of Virginia and the Director of the Graduate Reading Program for Old Dominion University visited the school system on October 21 and November 6, 1987. They observed classes in grades 4-9 during the morning and met with teachers for an inservice training workshop in the afternoon. They met with the writer on November 6 and made several recommendations concerning the structure of the language arts curriculum. The Director of the Graduate Reading Program at ODU said, "that grouping of classes for "within a school" middle school should be an objective for each building. Seventh grade students should be enrolled in a class that focuses on literature and study skills". The Director of the Reading Center at UVA stated:

> In the classes I observed, the teachers were the focus of instructional activity. There was very little collaborative learning. Teachers utilized the lecture approach and students were either doing worksheets, copying from the board, or reading the textbook. There was more emphasis on the single textbook and teacher's manual than appropriate.

The above test results and students' grades for the past three years indicate that student achievement in grades 6-8 had continued to decline. In addition, observations from outside consultants indicated a need to provide

inservice training for teachers and administrators in working with middle level students.

Justification of Problem Situation as Problematic"

State achievement scores from 1984-87 had been above the national averages, for all subjects tested in grades 4, 8, and 11. Overall, the national percentile rankings demonstrated that students' scores had remained essentially the same or had continued to increase. While King and Queen County achievement scores had shown improvement over the past three years, student achievement for the middle grades (6-8) in many content areas continued to decline.

Many students at the middle school level are at risk. They are at risk of dropping out of school because of their low achievement. While many students do not drop-out in the middle grades, due to attendance regulations, these students begin to experience the frustration and disappointment in the middle grades that contribute to their decision to drop-out after reaching high school. (State Department of Education's Middle School Guide, 1987)

The associate director of middle schools, State Department of Education, visited the school division on January 8, 1988. He observed the elementary and high school programs and subsequently met with the writer concerning his

observations. He stated in a letter of January 15, 1988:

> Your eighth graders (and your sixth and seventh graders) need a breadth in exploratory offerings which is not available in the elementary schools. I recommend investigating ways to bring exploratory opportunities in vocational education and foreign language to the sixth and seventh graders. I recommend also that the eighth grade remain at the high school until such time as there is a separate middle school available, so eighth grade students can continue to benefit from the elective and exploratory programs which are available in the high school. (Appendix D: 123-126)

The writer's observations and interviews with teachers and administrators indicated that virtually no coordination between grades 6-8 had occurred in the past. In addition, no inservice training had been provided for teachers and administrators on the needs of middle school students. Both teachers and administrators on the elementary and secondary levels had expressed frustration in working with these students and had requested assistance designed to help them understand the young adolescent and learn effective instructional strategies that should be used at the middle school level.

Probable Causes of Problem

The declining achievement scores of students in the King and Queen County System as they move through the middle grades may have been caused by the following: 1) the

structure and organization of the school system; 2) the lack of a sequential curriculum for grades K-12; and 3) the weakness of teachers' skills in grades 6-8 in working with the middle school student.

At the present time, the King and Queen County School System has two elementary schools, grades K-7, and one high school for grades 8-12. The elementary schools were not organized to provide differentiated instruction for students in grades six and seven. For the most part, these students were taught in the same manner as were the students in grades K-5. Middle level education should not be a mere duplication of the elementary curriculum. Compton states, (1983), "A youth in the middle level years is neither an older version of an elementary child, nor a younger version of a high school adolescent, and the school program is most effective when it reflects this fact". Students leave the elementary schools after completing the seventh grade and go into a departmentalized high school for grades 8-12. Eighth grade teachers also have instructional responsibilities for ninth and tenth grade students.

A sequential curriculum for grades K-12, which includes the objectives required of students, did not exist. The only written curriculum guides were for math and science in grades K-4. These were completed in August of 1987 and their implementation was begun in September.

Because sixth, seventh, and eighth graders are developmentally more alike than different and due to the fact that schools must meet the developmental needs of their students in order to educate them successfully, the middle school should comprise the sixth, seventh,and eighth grades. Having grades 6-8 together, in the same building, allows for the implemen- tation of a sequential, developmentally based curriculum. It also facilitates a stable and growing relationship between students, faculty, and parents. The four years of course work which lead to high school graduation, grades 9-12, need to be separated from the years of preparation for high school. This same philosophy even applies to school systems that cannot have grades 6-8 together in the same building. (State Department of Education's Middle School Guide, 1987).

It is during early adolescence that children begin to separate from their parents, they begin to develop a sense of personal autonomy and identity, and to develop their own connections with the larger society. Adolescents deal with their emerging social roles differently. In addition, the shift from concrete to more formal operations occurs during this period. Therefore, middle level teachers should strive daily to provide both concrete and abstract course material and various teaching methods to meet the varied cognitive levels of their students. A clear understanding of the developmental needs of early adolescence should be a basic

component of school improvement efforts (Dorman, 1983).

Ratekin and others (1985), observed classrooms in grades eight through eleven in order to determine teacher instructional methods. The 76 teachers who were observed, represented the content areas of math, science, social studies, and English language arts. They discovered that the teachers rarely varied their organizational settings and instructional methods. The teachers mostly utilized large group and whole group instructional settings. The English and math teacher observed, devoted very little time to small group instruction, while social studies and science teachers devoted 40 percent and 12 percent respectively. According to this study, there was very little variation from the whole class organizational setting and teachers relied heavily upon either the use of lecture or the monitoring of seatwork.

The writer conducted interviews and made observations during the weeks of November 14-18, and December 7-11, 1987. Interviews were conducted with the three building level principals, three librarians, four elementary teachers, (two in each grade of six and seven), three high school teachers (one eighth grade English, one eighth/ninth math, one eighth grade science). In addition, the writer observed grade six and seven social studies and science classes, as well as eighth grade English, math, and social studies classes. The three principals were selected for interviews based upon

their administrative positions, teachers and librarians were selected based on their subject teaching area and grade level. The questions used were validated by presenting them to the high school Assistant Principal, one elementary teacher, and one high school teacher prior to the actual interviews being conducted in order to obtain their responses and opinions as to the appropriateness of the questions. The questions asked were:

1. Do you feel that the school system is responsive to young adolescents needs for diversity?
2. Does the library program currently meet the needs of middle level students?
3. Have you completed a course in middle school curriculum?
4. Are current teacher instructional methods adequate for working in the middle grades?
5. Does the present middle level curriculum meet the needs of students?
6. Has your school had any inservice training on the developmental needs of and appropriate instructional methods for middle school students?
7. Are intra-school grade-level meetings regularly scheduled?

The results of the interviews indicated that virtually no coordination between grades 6-8 has occurred in the past. An eighth grade English teacher commented, "Eighth graders

have a difficult time adjusting here. They don't understand us and we don't understand them. We desperately need to focus on the needs of these students. The first thing we need to do is stop blaming each other and start working together to improve our program" (Appendix E: 132). There was wide agreement that the school system's present instructional program, for the middle grades, does not adequately meet the needs of the middle-age student. For example, 11 of the 13 respondents felt that the schools are not responsive to the need for instructional diversity at this level. (Table 3)

Table 3

Tabulation of Answers to Interview Questions

Interview Answers	Elem. Teachers		H.S. Teachers		Administrators		Librarians		Total	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Question 1	0	4	2	1	0	3	0	3	2	11
Question 2	0	4	0	3	1	2	0	3	1	12
Question 3	1	3	0	3	0	3	0	3	1	12
Question 4	0	4	1	2	0	3	1	2	2	11
Question 5	0	4	0	3	0	3	0	3	0	13
Question 6	0	4	0	3	0	3	0	3	0	13
Question 7	0	4	0	3	0	3	0	3	0	13

An elementary principal commented:

> Well, having K-7 students in one building makes it very difficult to adequately address the needs of these students. Although we have some team teaching in grades six and seven, we desperately need to offer programs which recognize the diversity of the middle school students. We do not have many clubs, assembly programs, or other activities which are important. Our teachers are frustrated in dealing with the complexities of these students. I feel we need inservice education programs on the middle level student. (Appendix E: 133)

Only one teacher interviewed indicated that she had completed a course regarding middle school curriculum. Among the building principals, none had completed such a course. One of the sixth grade teacher stated, "Our program in grades six and seven is no different then K-5, mostly self-contained. We really do not offer academic activities geared to the middle level school" (Appendix E: 128). All teachers and administrators responded that no inservice training had been provided on the developmental needs of adolescents or on appropriate instructional methods for middle school students. Eleven of the 13 respondents felt that current teacher instructional methods were not adequate for working with middle level students. An eighth grade math teacher stated:

> Most eighth graders enter this school very scared and not prepared for the routine of high school. Not only do I think that the high school has not been sensitive to these students' needs, but the elementary program surely has not prepared many of these students for the academic challenge of high school. (Appendix E: 138)

Teachers and administrators at both the elementary and secondary levels had expressed frustration in working with these students and had requested assistance designed to help them understand the young adolescent and to learn effective instructional strategies that should be used at the middle school level.

The writer also asked the high school guidance counselor to meet with eighth grade students to ascertain their feelings about high school. She met with eighth grade classes on November 10 and 13, 1987. The results of the group interviews were sent to the writer on November 23, 1987. The counselor stated, in summing-up the interviews, that:

> Eighth graders have previously been very comfortable in their school environments. Many of them have attended school with the same students and had the same teachers in the school since kindergarten. They felt loved and secure. When they enter high school, everything is different. Eighth graders from both elementary schools merge to form the eighth grade class, and upper classmen and teachers are new to them. They constantly rush from homeroom to classes, and they always have to stop doing one to rush to another. Previous friendships suffer because there is no time to talk with friends and because some eighth graders try to be like the older students. Eighth graders don't know how to manage their time, and they are developmentally unprepared for so many changes, particularly the attentions from opposite-sex older students. (Appendix F: 141-143)

One needed growth area for middle school adolescents is the development of self-confidence. In order to gain more self-confidence, students need to experience much success. Middle level teachers cannot give student success; they can

only provide a positive climate that makes success possible. Teachers can also encourage students to try up to their full potentials. Middle level curriculum should therefore emphasize an ongoing set of activities. (Henson, 1986) The middle level of schooling is the weakest link in the entire K-12 continuum. This was from the low test scores to high rates of absenteeism, suspensions, and vandalism (Lipsitz, 1981). A successful middle school is one that encourages activity. Students need to feel a part of the school, and the way to accomplish this is to keep them involved. Activities such as election campaigns, exhibits, and science fairs are all effective. Variety is also very important.

The writer observed two sixth grade social studies classes, two seventh grade science classes, one eighth grade English class, one eighth grade math class, and one eighth grade science class. The writer found only whole group instruction being demonstrated. In the classes observed, no teaching was provided in small group sessions where students were paired for instruction. The teachers in all classes were utilizing the lecture method of teaching and were working from either textbooks or worksheets. The teachers as well as the administrators interviewed, indicated that the textbooks were too difficult for the majority of the students.

Teachers also complained about the lack of content resources in the library. The writer interviewed all the

librarians and concluded that all librarians should be more involved in instructional planning, attend grade level meetings, and that more funds need to be allocated for library materials in grades 6-8. (Appendix E: 127-140)

The writer concluded that the structure of the school division did not provide for adequate articulation between the middle grades. In addition, interviews and classroom observations indicated that the lack of a sequential K-12 curriculum and inadequate instructional techniques for working with middle level students contributed to the low achievement scores of grade 6-8 students.

Chapter 3

PROBLEM SITUATION AND CONTEXT

Written Policies and Procedures, and Commentaries

There were no written policies within the school division which specifically addressed the needs of the middle level students. However, the school division's Six Year Improvement Plan, the school system's philosophy statement, and the Virginia State Department of Education's Standards for Accrediting Schools did indirectly speak to the needs of all students grades in K-12.

These statements were helpful in solving the practicum problem. The King and Queen County School Division's Six Year Improvement Plan, which was approved by the school board in July, 1987, emphasized improvements to be made in reading, mathematics, social studies, and science. The recommendations included in the plan were very compatible with the school division's philosophy statement:

> It is the belief of the school board that there must be a basic curriculum, developmental in nature, to provide for the intellectual growth of all students, in kindergarten through twelfth grade, so developed that learning experiences and achievement may vary according to individual needs and give all pupils a basic body of understanding, attitudes, skills, and knowledge. (King and Queen School Board Policy Manual; approved November 12, 1984: 6-8)

The State Department of Education's Standards for Accrediting Schools in Virginia, stated that, "each school shall provide a planned and balanced program of instruction that is in keeping with the educational needs of students, abilities, interests, and promotes student achievement." (State Board of Education, memo No. 116, May, 1987: 6) This statement was quite useful in the practicum's implementation because the Virginia State Department of Education, in its Standards for Accrediting Schools, focused on the school's program as it related to the academic and developmental needs of students. The writer utilized these standards as he developed and implemented the practicum.

Norms for Behavior, Values, Traditions

The writer interviewed teachers, administrators, and students in grades 6-9. In addition, classroom observations were conducted in grades 6-9. The results of the interviews and observations indicated that many teachers were generally utilizing whole group instruction and had not made adjustments in their classes for the varied learning styles and achievement levels of their students. While many agreed that students were having trouble reading the textbooks and preparing for tests, few seemed to utilize varied teaching strategies to meet the needs of the diverse student

population.

The basal textbooks were the major curriculum sources in the classrooms observed. At the middle school level, the school division lacked curriculum guides for all content area subjects and the teachers observed were not incorporating other curriculum materials beyond the basal textbooks. Some teachers observed were not utilizing the State Standards of Learning (SOL). One high school teacher commented on the objectives by stating, "We do not have the time to go through students' cumulative folders to identify what SOL objectives have not been completed. Our homeroom periods are not designed for this type of procedure." (Appendix E: 137) This particular teacher had a failure rate of 37 percent in eighth grade math for the first six week grading period of 1987-1988. The observations and interviews indicated that the curriculum and organizational structure impeded the learning process of students in grades 6-8 and did not appear to meet the individual needs of these students. Results of interviews conducted during the weeks of November 14-18 and December 7-11, 1987 indicated that the majority of teachers and administrators believed that the curriculum, for middle-age students, was inadequate and that they were willing to participate in inservice training programs and curriculum planning meetings. These attitudes were positive and served to enhance the practicum's implementation.

Formal and Informal Influences of Individuals and Groups

The writer is currently the Assistant Superintendent for Instruction. He has certification endorsements as an elementary principal, middle school principal, and secondary principal. His major administrative and instructional responsibilities include: all K-12 instruction, vocational education, special education, and all federal programs. These responsibilities allow him access and the opportunity to provide input into every facet of the school division. As a result, the writer was able to focus on programs for the middle level student and to devote time to their improvement.

According to interviews with administrators and teachers and information that was obtained from personnel files, none of the building level principals, nor any of their teachers in grades 6-8, had ever completed a course in middle school curriculum.

The building level principals had a great deal of authority and independence. This was due, in part, to the relatively small size of the school division and central office staff. The superintendent's administrative style also allowed for a great deal of authority and independence on the principals' part. The writer believed that the authority and independence of the building principals tended to constrain the practicum implementation process because the success or failure of the division's curriculum

decisions was determined by whether or not each building administrator was supportive of the decision. Therefore, each elementary school tended to emphasize different instructional goals even though weaknesses were documented in certain content areas in both schools. Since 1986, the principals began to demonstrate more instructional leadership than they had done previously. For example, during the past two years, the principals provided more inservice training programs dealing with particular curriculum programs. Also their observation and evaluation reports reflected more attention to specific curriculum recommendations and commendations. Both elementary principals attended more professional conferences and workshops. These improvements seemed to have resulted because of the State Department of Education's mandates concerning student achievement and local school board concerns pertaining to school improvement. The writer believes that the improvement in instructional leadership by building principals had a positive impact upon the practicum's implementation.

As a direct result of the school division not having completed sequential curriculum guides, teachers exercised more authority and responsibility in determining what to teach in their classes. The textbook was the main source of the curriculum and because of this, many teachers were not making proper adjustments for their students and were

relying solely on the textbook for instruction. The writer believed that this was constraining because teachers sometimes determined what content areas and objectives were important. Here again instructional emphasis was more a reflection on the leadership of the school rather than an implementation of the school division's policies.

External Circumstances

The King and Queen County School Division had traditionally been designated as a deficient school division by many people within and outside of the county. For example, an article from the November 23, 1986 Richmond Times-Dispatch, listed King and Queen as one of several school divisions which would be declared educationally deficient, by the State Board of Education, because of low achievement scores under the newly adopted accreditation standards. (Appendix G: 144-145) In addition, another newspaper article discussed the number of King and Queen students enrolled in the Middlesex County School Division and implied that the cited enrollment figures would increase in the future (Appendix H: 101). Approximately 20 percent of the resident students attended public or private schools in other counties. Although these public comments perceived the school division negatively, they did call attention to the need for improvement. The writer believed that such

comments assisted in the practicum's implementation, especially with respect to the new accreditation standards, because they were used as a catalyst for improvement and change.

On March 26, 1986, the Governor convened a Committee on Excellence in Education. On this date he charged them with the task of recommending specific actions to improve to schools in Virginia. The Commission submitted its report to the Governor in October 1986. Concerning middle school education, the Commission stated:

> One of Virginia's major school problems must be turned into an asset. We have concluded that the middle school grades - grades 6 through 8 - are the educational stepchildren in our system. Many contend that education in the middle school grades is an educational wasteland.
>
> Performance in grades 6 through 8 often determines whether students graduate or drop out of high school. The middle school years are a period of upheaval for adolescents undergoing physical, social, and emotional changes. Attitudes and values are challenged and developed. These changes are often reflected in a decline in academic performance and in the development of negative attitudes toward school. For low achievers, the middle school is the place where attitudes and performance become firmly established and where potential dropouts can usually be identified.
>
> We therefore recommend that the Department of Education begin immediately to restructure education in the middle school grades. (Excellence in Education: The Report of the Governor's Commission on Excellence in Education, October,1986)

The Commission's recommendations had become a part of the new State Accreditation Guidelines and helped in the development and implementation of programs for middle school students.

Finally, SAT scores for the school division were recently published in the local newspaper. Although King and Queen SAT scores increased, they were still the lowest of the middle peninsula school divisions. The State average combined score was 907, while the average for King and Queen was only 750. The fact that King and Queen students were performing low on SAT Tests provided further evidence that curriculum changes were necessary and lent credence to proposals that were designed to improve programs for the middle level students. This would ultimately result in improved student performance on state and national tests in high school.

Chapter 4

PROBLEM CONCEPTUALIZATION, PRACTICUM OUTCOMES, AND THE SOLUTION STRATEGY

Bibliographic Research and Review of the Literature

Adelson (1983) investigated the growth of thought processes in the development of political cognitions among young adolescents. He conducted interviews with 300 adolescents in the United States, England, and Germany. They ranged from ages 11 to 18 and from fifth through twelfth grade. The students were asked questions which focused on a variety of social, political, and moral issues. Questions were asked about the," scope and proper limits of authority; the balanced obligations of the individual and the community; the nature of crime and justice; and the conflict between personal freedom and the common good" (1983:157). The author discovered that generally, between the ages of 13 and 15, there was a very dramatic shift in the perception of a concept. In almost all cases, a gradual change in cognition orientation was found. The transition from concrete to abstract modes of thinking was very dramatic. No youngsters at the age of 11, in the cross-national study, were able to speak at a high level of abstraction. This was in direct contrast to the results

obtained for students aged 13 - 15. In addition, youngsters at age 18 were able to shift back and forth from concrete to abstract. The author concluded that because of the biological and social changes taking place within the adolescent, and because this was the age level of dramatic cognitive change, the young adolescent was very difficult to teach.

Based on research on early adolescent behavior, the Center for Early Adolescence had identified seven developmental needs of this particular age group which schools should adequately respond to. These were:

1. diversity
2. self-exploration
3. meaningful participation in their schools/communities
4. positive social interactions with peers and adults
5. physical activity
6. competence and achievement
7. structure and clear limits
(Dorman, et al. 1985:46)

These needs were not compartmentalized, but rather they were interrelated. Schools should design and implement programs that encouraged positive adolescent learning and growth while taking into account these seven developmental needs of young adolescents. (Dorman, et al. 1985)

George and OlDaker (1986), studied middle schools in 34 states to determine how the change to a middle school organization affected the learning climate and the students' achievement and personal development. One hundred thirty

schools participated in the study.

To ascertain whether the programs in the schools were considered effective for educating early adolescents, the authors asked the school to respond to detailed information about conforming to certain guidelines. For example, over 90 percent of the schools organized teachers and students into interdisciplinary teams, instead of self-contained classrooms. Ninety-four percent used flexible scheduling during the school day. Ninety-three percent included a homeroom period. All respondents indicated that their programs were organized with the middle school students in mind. Ninety-five percent developed curriculum on students' developmental needs and had a wide range of exploratory activities.

They found that the schools were very successful in promoting personal development. Over 80 percent of the respondents, to the national survey, indicated that student emotional health, creativity, and confidence in self-directed learning were all positively affected by the grade 6-8 organization. Over 90 percent indicated that student social development and self-concept were also benefited. These grade 6-8 middle level organizations appeared to delay certain social pressures which sometimes cause school problems. Middle schools can work with students before the growth spurts associated with puberty occur and can help students adjust to new academic situations before problems

develop.

Recent research indicated that in order to help adolescents develop more sophisticated modes of thinking, teachers need to include thinking enrichment activities with content area instruction. In 1986, Strahan found that middle grade students undergo a critical period in the development of reasoning strategies. Strahan identified this as a period in which the students begin to develop new thinking capacities. Such practices as rote teaching of basic skills, lecturing, and exercises that were repetitive focused on a limited view of an adolescent's potential for learning. Slavin (1983) found that small group instruction, cooperative learning, and active participation of both students and teachers were important elements of effective instruction, particularly with low achieving students.

Binko and Lawlor's investigation (1986), into effective practices that were being implemented in middle schools, found that teachers of language arts and social studies utilized more effective strategies than math and science teachers. Their findings showed a tendency for math and science teachers to organize instruction, content, class activities, and teaching methods according to the topic being taught instead of according to the needs of their students.

Montague and Tanner (1987), stated that since most content courses were structured around the textbook, teachers needed to use techniques that enhanced the students' understanding of textual materials.

These research studies were important to the writer's setting because five out-of six teachers interviewed, and all building level principals, felt that many middle school teachers not only lacked the instructional skills necessary for working with middle level students, but many had not yet acquired an understanding of the developmental aspects of middle age children. The writer's observations of grade 6-8 classrooms concurred that many teachers utilized only whole group instructional methods and relied exclusively on the textbook as the major resource for instruction. The writer observed social studies, science and math classes at both elementary schools and a math class and a science class at the high school. In every class observed, the instruction was presented in a lecture format for the entire class. Of the classes observed, none used any additional sources of information besides the textbook nor were there any varied instructional techniques employed.

Data Gathering Through Consultations and Site Visits

The writer interviewed the Supervisor of Language Arts at the State Department of Education; the Director of the McGuffee Reading Center at UVA; the Director of Graduate Reading Programs at ODU; and the Associate Director of Middle Schools at the State Department of Education. The Supervisor of Language Arts indicated that the school division should examine the Educational Ability Series scores (SRA) of eighth graders to see how they scored on verbal and non-verbal sections in order to assist in determining what type of learners they were. The Director of the McGuffee Reading Center stated that teachers needed a model for teaching content reading. He suggested that some restructuring of grades 6-8 was extremely important in meeting the diverse needs of the these students. He also indicated that the librarians in each school should assume a more central place in the instructional program. He stated, "The goal here is very important -- that the literature of the disciplines, fiction and non-fiction related to social studies and science particularly, become an integral part of the instructional program in language arts." The Director of the Graduate Reading Program at ODU believed that a middle school concept within the elementary school was also important. She further indicated that the library needed to be a focal point of each elementary school. The students needed to utilize the library for more research and unit

work. According to her, the librarians should be more involved in curriculum planning and in middle grade-level meetings. She also indicated that the library should be a vibrant, exciting part of the school day. Middle level students should begin to utilize the library for research work, and the librarian should be involved in teaching study skills on a regular basis. She further suggested that middle level students should have the opportunity, through library media services, to participate in a wide range of learning activities which could foster self-concept, responsibility, and positive school attitudes. She also felt that the present elementary librarians were not integrated into the school curriculum. The Associate Director of Middle Schools for the State of Virginia indicated that programs for 6-8 grade students should be coordinated in spite of the current separation of eighth graders that exists in the county. He visited the school system in January, 1988, to observe classes and made recommendations for improvement.

Practicum Outcomes

Terminal Objectives:

When this major research project was first conceived, the following objectives were formulated to guide the action:

1. As a result of implementing a middle scool program from February 1988-June 1989, sixth grade achievement scores will increase, in reading, mathematics, language arts, social studies, and science by at least 10 percentile points as measured by the Iowa Test of Basic Skills. The writer believes that a ten percentile point increase is realistic because the curriculum to be implemented will be designed to meet the needs of middle school students.

2. As a result of implementing a middle school program from February 1988-June 1989,seventh grade achievement scores will increase in reading, language arts, mathematics, social studies, and science by at least 10 percentile points as measured by the Iowa Test of Basic Skills. The writer believes that a 10 point increase is realistic because the curriculum that will be provided during the project's implementation will meet the needs of the middle school student.

3. As a result of implementing a middle school program from February 1988-June 1989, eighth grade achievement scores will increase in reading, language arts, mathematics, social studies, and science by at least 10 percentile points as measured by the Iowa Test of Basic Skills. The writer believes that a ten percentile point increase is realistic because he will implement a curriculum designed to meet the needs of middle school students.

Intermediate Objectives:

1. As a result of implementing a middle school program from February 1988 - June 1989, school librarians will participate in grade level meetings and currilum development meetings as evidenced by written reports of these meetings submitted to the Assistant Superintendent.

2. As a result of implementing a middle school program from February 1988 - June 1989, curriculum committees will be formed to complete curriculum guides in math and science for grades 6-8. These curriculum guides will be implemented into the curriculum as evidenced by inservice training workshops and by observation/evaluation reports

submitted by building principals to the Assistant Superintendent for Instruction.

3. As a result of implementing a middle level program from February 1988-June 1989, grade 6-8 teachers, administrators, and librarians will acquire knowledge of human growth and development related to the early adolescent student and increase their knowledge of the instructional strategies of grouping for effective instruction, teaching study skills, involving students in their own learning, and teaching critical thinking skills as evidenced by participation in inservice training workshops, completion of a middle level curriculum course, and by implementation of strategies as documented in observations and evaluations conducted by building principals and central office personnel.

Goals of the Enterprise

The long term goals of this practicum proposal were to improve the instructional program in the school division and to improve the attitudes of teachers and administrators in working with students who had varied developmental and instructional needs.

The writer was hopeful that the K-12 instructional program would be improved by providing programs and various activities that were appropriate for the grade and age levels of all students. By improving the performance of students in the middle grades, the writer hoped to strengthen the middle level program and to improve the articulation between the elementary and high schools. This improvement in the academic programs would result in a reduction in the number of students who leave the school division in the middle grades to enroll in middle and high schools outside of King and Queen County.

Finally, by providing opportunities for teachers and administrators to participate in inservice training workshops, as well as in planning curriculum programs, it was anticipated that teachers and administrators' attitudes would become more positive. This would result from the acquisition of more knowledge pertaining to middle school curriculum and the developmental needs of the middle school-age student. This information would enable them to provide more success for their students and thus the teachers themselves would experience greater personal success.

Proposal Solution Components

Student academic achievement for grades 6-8 in the King and Queen County School Division, as measured by the Science Research Associates National Achievement Test, had been below state and national averages for the past three years. It was apparent from the numerous interviews and observations conducted, that the development of a middle school program for grades six through eight was needed. This writer proposed that inservice training programs be implemented to increase teacher and administrator knowledge of varied and effective instructional practices for middle level students. In addition, inservice training programs were conducted which pertained to middle school curriculum and human growth and development of the early adolescent student. The writer also proposed to offer a graduate level course, in August 1988, for all teachers in grades six through eight, librarians, and administrators on the middle school curriculum.

The writer interviewed teachers and administrators concerning the library resources for grades six through eight. It was very evident that the libraries did not meet the needs of the grade 6-8 program. (Appendix E: 127-140) The writer proposed to allocate additional school board funds and Chapter II funds for middle level library resources. In conjunction with this, the writer proposed to increase the participation of the school librarians in curriculum planning.

The structure of the school division made it difficult to effectively orchestrate a middle school program. This was primarily due to the fact that the elementary schools were organized as grades K-7, and the high school was organized as grades 8-12. The writer proposed to establish regularly scheduled 6-8 grade level articulation meetings. The purpose being for teachers and administrators to discuss mutual problems and share information concerning the middle level adolescent.

Finally, the school division did not have a sequential curriculum, in each subject area, for grades K-12. The writer proposed to begin the development and implementation of math and science curriculum guides for grades K-8.

Chapter 5

HISTORICAL ACCOUNT OF STRATEGY IMPLEMENTATION

Introduction

It was the intention of the implementation design of this major research project to improve the achievement of students in the middle grades through the development and implementation of a staff development program for teachers and administrators on the middle school concept. The solution strategies included a series of inservice training activities which emphasized varied and effective instructional practices for teachers of middle school students, understanding the developmental aspects of early adolescent students, and the development and implementation of curriculum guides in math and science for grades 6-8. The implementation process occurred from February 1988 through June 1989. The inservice training activities were conducted as planned with assistance from the Supervisors of Science and Math for the Virginia State Department of Education, the principal of J. Henley Middle School in Albemarle County, and the superintendent, principals, various teachers and reading specialists in the King and Queen County School Division.

The school board, recognizing the need to improve the achievement of students in the middle grades, gave its support to the major research project by approving funds to

pay the full tuition for teachers and administrators to take the middle school curriculum course which was offered at the high school. The board also provided stipends for teachers who developed the curriculum guides. Teachers and administrators attended conferences and institutes on middle school education. Further, the school board approved program changes and teacher re-assignments in grades six through eight. These included incorporating an interdisciplinary team approach in grades six and seven and designating specific teachers to teach eighth grade English and math. In addition, changes in teaching assignments in grades six through eight were made as a result of the writer's recommendation after conversations with the principals and the superintendent.

Grade 6-8 Articulation Committee Meetings

The writer organized a meeting on February 9, 1988 of middle level teachers and administrators to address the problem of grade 6-8 achievement. Two elementary teachers, one eighth grade English teacher, one eighth grade math teacher, the high school guidance counselor, and all three building principals attended the meeting. The meeting was held at King and Queen Central High School from 9:00 a.m. to 3:00 p.m. The writer presented information to the committee concerning achievement in the middle grades as well as other

program needs. Data were presented about achievement scores from 1985 through 1987 which indicated a decline in student achievement as they moved through the middle grades. The elementary teachers felt that the high school teaching staff was not sensitive to the needs of eighth grade students. The high school teaching staff indicated that students were not adequately prepared for high school. In addition, the writer also presented information concerning curriculum development and inservice education plans for both administrators and teachers.

The writer divided the articulation committee into two work groups with both elementary and high school teachers in each group. Their assignment was to develop strategies to improve the achievement of middle grade students. The two committees gave oral reports after lunch. They indicated a need to restructure the current organizational plan for grades 6-8. For example, they suggested a interdisciplinary team approach, moving away from the self-contained philosophy, and organizing grade 6-8 grade level meetings. They also indicated that inservice training workshops for grades 6-8 teachers and administrators should be held on a regular basis and that visits to other school districts to observe middle school programs were necessary. They recommended that the inservice training workshops focus on understanding the developmental needs of the early adolescent and effective teaching strategies for middle school students. Further,

visits to other school divisions were recommended for the purpose of observing curriculum programs and the organizational structure of those middle schools.

The writer responded to these recommendations by establishing inservice training workshops and school visitations. The writer met with both reading specialists on February 14, 1988 to discuss an inservice training workshop on study skills. This was an area that the grade 6-8 articulation committee emphasized as one in which many students were weak. Both reading specialists indicated that this was an important need and stated that many of the students that they had observed did not have the necessary study skills to be successful in school. Further, they were spending a great deal of time in remedial reading classes developing such skills and felt that there should be an integrated approach with regular classroom teachers. They both agreed to present inservice workshops on study skills.

The reading specialists presented an inservice training workshop on February 16, 1988 at King and Queen Elementary School entitled, "Teaching Effective Study Skills." Middle grade teachers participated in a variety of activities designed to improve their skills in helping students master course content. For example, teachers were introduced to identifying different learning styles of students and how to identify their own learning styles. In addition, the workshops focused on developing listening skills, outlining,

and notetaking, to name a few. The inservice training evaluation forms indicated that teachers were pleased with the content and presentations. Twelve out of 14 teachers indicated that the material presented was extremely helpful. In addition, eight out of 14 teachers rated the overall program as being excellent. Use of the study skills strategies was monitored weekly through observation visits by the reading special- ists, building principals, and the writer. Teachers also observed the strategies being taught in other classrooms and through individual-school staff-development meetings.

Visitation of Middle Schools in Albemarle County, Virginia

The writer called the Director of Staff Development in the Albemarle County Public School System to inquire about having teachers and administrators visit their middle schools. This school district was referred by the State Supervisor of Middle Schools as one with exemplary middle school programs. Approval was obtained for teachers and administrators to visit on February 17, 1988. The team included three elementary grade 6-7 teachers, one eighth grade English teacher, one eighth grade math teacher, and the three school principals. The team met with the director of Middle Schools, the middle school principals, and the Director of Staff Development at 8:30 a.m. After a short video presentation of the school division's middle school

program, the group heard presentations from the principals and the Director of Middle Schools. Subsequent to these presentations, the middle school principals took two members of the team each to visit individual schools. Team members were able to visit classrooms and talk with teachers and students. The writer asked each team member to submit a report upon returning to their respective schools. The reports recommended exploratory courses in foreign language, vocational education, and business for sixth and seventh grade students; inservice training for all middle level teachers and administrators on working with young adolescent students; and suggested completion of a middle school curriculum course for all grade 6-8 teachers. In addition, it was recommended that the principal of one of the schools visited be asked to teach the middle school curriculum course.

Planning for the Middle School Curriculum Course

The writer contacted the Director of Continuing Education, University of Virginia, on March 7, 1988 to inquire about offering the middle school curriculum course. The writer also asked whether the principal of Joseph T. Henley Middle School in Albemarle County could be contacted to teach the course. He received notification on March 11, 1988 that the course was approved for the fall of 1988 to be

taught at King and Queen Central High School. The writer spoke with the principal of Henley Middle School on March 15, 1988. She agreed to teach the course. She also agreed to meet with the writer during August of 1988 to discuss the needs of the school division in middle level education so that the course would be geared to the particular concerns of teachers and administrators.

An administrative memorandum was sent to teachers and administrators on May 4, 1988 indicating that the course would be offered and that the school board would pay the full tuition of the course. (Appendix I: 147) The writer also contacted the State Department of Education concerning the extension of those teachers' certificates that were due to expire as of July, 1988 in order that the middle school curriculum course could be used for recertification. This request was approved by the Director of Professional Development.

School Board Presentation on Achievement of Middle School Students

The writer presented the Science Research Associates (SRA) test results to the school board at its March 22, 1988 meeting. He pointed out the decrease in achievement of students as they moved through the middle grades. This

presentation generated a great deal of discussion between the writer, the school board, and the division superintendent. One school board member stated that the eighth grade students should be in a middle school were they would receive the attention and instruction better suited to their age level. He asked whether it would be feasible to transfer the eighth grade to the elementary school and provide additional classroom space to accommodate them. This comment generated discussion concerning the proposed additions to Lawson-Marriott Elementary School. The school board discussed closing the Marriott building, an old school building, and adding classroom space onto Lawson to accommodate grades four through seven. Another school board member indicated that the school board should consider renovating both elementary schools to accommodate the eighth grade and implement the middle school concept within each elementary school. The superintendent indicated that this idea was worth pursuing. He indicated that the problem of poor achievement scores in the middle grades requires unique solutions. The school board authorized the superintendent to submit preliminary cost estimates to the board at its April 19, 1988 meeting. The writer also gave a report to the school board concerning inservice training activities planned for middle grade teachers. The chairman of the school board asked the writer to submit a report on these activities at the June 1988 school board meeting.

Administrative Meeting on the Restructuring of the Middle Grades

The superintendent called an administrative team meeting on March 30, 1988 to discuss plans for the middle school for the 1988-89 school year. The writer reviewed the report from the Director of Middle Schools, State Department of Education, who visited the school division in January. In addition, he also gave reports on the visit by teachers and administrators to the Albemarle County Public School Division. He indicated that it was extremely important to have a consistent program at both elementary schools that is coordinated with the high school program in order to meet the needs of the middle level students.

The superintendent asked the principals to give feedback concerning the organizational structure in the middle grades and teaching assignments. One elementary principal felt a completely departmentalized structure was needed in grades six and seven. The other principal felt a team-teaching approach within each grade level was more appropriate. The superintendent indicated that because there will be only two sections of each grade (sixth and seventh) at each school for the 1988-89 school year, an interdisciplinary team structure with teachers assigned to content areas based upon their experience and skill in working with the middle grades would be followed as much as possible. The high school principal suggested that one

eighth grade English teacher and one eighth grade math teacher be reassigned for the 1988-89 school year. The writer concurred, indicating that the failure rate in eighth grade English and eighth grade math was above 50 percent as of the fourth sixth-week reporting period. He recommended giving eighth grade English to an experienced teacher who had asked for this grade level and who had been a successful English teacher in the past. He also recommended that the eighth grade math teacher be reassigned to Algebra One and his performance be closely monitored. The superintendent approved these reassignments.

Presentation of Middle School Plans to School Board and Board of Supervisors

The superintendent presented preliminary architectural plans to the school board on April 19, 1988 concerning additions and alterations to both elementary schools. He indicated that classroom space will be necessary for science labs, computer rooms, and exploratory courses in order to meet the needs of the middle school students and to effectively implement a middle school concept. The school board authorized the superintendent to appear before the County Board of Supervisors to seek approval to apply for a state literary fund loan in the amount of $2 million for the purpose of renovating both elementary schools.

The superintendent presented the building program to the Board of Supervisors on May 8, 1988. The writer was asked by the superintendent to present data on school achievement in the middle grades and why it would be important to develop the middle school concept. The Board of Supervisors approved filing the application for the State Literary Loan bonds.

Inservice Education Workshop - Integrating Literature in the Curriculum

An inservice training workshop was held on April 28-29, 1988 at King and Queen Elementary School for grade 6-8 English teachers, school librarians, and the reading specialists. The workshop was conducted by the Associate Professor of Curriculum from the University of Virginia. The purpose of the workshop was to integrate a literature program into the content reading curriculum and to show how both fiction and non-fiction, especially related to science and social studies, could be included in the language arts instructional program. The teachers were asked to rate the workshop at the conclusion of training on a scale of one (poor) to five (excellent). Eighteen teachers participated in the workshop; one teacher rated the workshop a six, 13 rated it a five, and four teachers gave a rating of four.

The strategies introduced were monitored in the classroom through principal observations of instruction. In addition, a follow-up inservice training workshop was held on August 30 and 31, 1988 at Lawson-Marriott Elementary School for teachers new to the school district and for teachers who had not attended the April workshop. The instructor returned to the school division on September 21 and 22, 1988 to observe the instructional strategies. She visited classrooms and met with teachers and administrators on September 22 at 3:00 p.m. to answer questions and to give feedback pertaining to her observations. She indicated that most teachers were utilizing strategies from the workshops. Teachers were also encouraged to visit other teachers' classrooms to observe the different techniques of integrating literature into content areas. The workshop presenter met with the writer after this meeting and indicated that she was especially pleased with how the sixth and seventh grade social studies and science teachers had incorporated the learning strategies into their content areas and were utilizing library resources. Subsequently, the writer visited the librarians, social studies teachers, and science teachers at both elementary schools on September 24, 1988 to give them feedback received from the workshop presenter.

Development and Implementation of Science and Math Curriculum Guides

The writer requested names of teachers to serve on the science and math curriculum committees. Each principal submitted two names for each committee. The superintendent indicated that each teacher would receive a stipend of $700.00 for a two week period in June, 1988. The writer met with the curriculum committees on April 14, 1988. The Supervisor of Science, State Department of Education, also met with the science committee. The committees reviewed past achievement scores in these two subject areas, discussed the current curriculum, and established timelines for completing the curriculum guides.

The science and math curriculum committees met during the weeks of June 26-30, 1988 and July 10-14, 1988. The committees completed the drafts of the curriculum guides. This information was reviewed by the writer and the State Department of Education consultant. Completed guides were presented at the August 16, 1988 school board meeting. The school board voted unanimously to incorporate the curriculum guides into the instructional program.

Inservice training workshops on the curriculum guides were conducted on September 1,1988 at King and Queen Central High School. All grade 6-8 teachers of math and science attended. The State Supervisor of Science and Math introduced the completed curriculum guides. They demonstrated

various teaching strategies and gave an overview of the guides and how teachers should utilize the developed curriculums. The State Department Supervisors emphasized the importance of incorporating hands-on activities in the curriculum and the integration of the developed curriculum guides with basal math and science textbooks. Questions were asked concerning various learning strategies presented and the integration of the curriculum guides with the Standards of Learning Objectives (SOL's).

The evaluation reports indicated that most teachers were pleased with the inservice training, but indicated that more time should have been allowed for the presentations and discussions. In addition, the writer spoke with teachers and administrators after the workshop and reviewed comments that there were too many inservice training workshops planned for the pre-school week and that teachers did not have enough time to work in their classrooms.

The implementation of the curriculum guides was monitored through classroom observations by the writer and principals. Observation reports by the principals indicated that more hands-on activities in both math and science were evident. Lesson plans coded to curriculum guide objectives gave principals a focus to evaluate the instructional programs. The principals indicated in the October 18, 1988 administrative meeting that the math and science instructional programs were better sequenced than in the past.

Middle School Summer Institute

The writer received information from the State Department of Education on April 5, 1988 related to a Middle School Institute scheduled for the week of July 17, 1988. The purpose of the institute was to bring together a teaching team of about five high school divisions throughout the state for a week-long training program where school improvement programs could be developed. School divisions had to apply to be selected for the institute. The writer wrote the principals a memorandum on April 26, 1988, met with them on May 8, 1988, and presented the information. (Appendix J: 148-151) He indicated the importance of this institute and that it could be a good opportunity for the school division to develop a school improvement program for the middle school concept. The superintendent and principals endorsed filing an application. One teacher, the two elementary principals, the high school principal, the assistant principal at the high school, and one high school guidance counselor were selected to participate pending approval of the application. The writer completed and submitted the application to the State Department of Education on June 1, 1988. The superintendent received notification that the application was approved on June 16, 1988. (Appendix K: 152) The Department of Education paid all expenses for the participants. The school division paid each teacher a $50.00 per day stipend. The writer thought

this was important because they had to utilize a week of their vacation to attend the summer institute.

The writer met with the middle school institute participants on August 29, 1988 at the school board office. The principal of Lawson-Marriott Elementary School indicated that the small group sessions were most helpful, especially the sessions on "Adolescents' Development and Learning Characteristics" and "Instruction in the Middle School." The guidance counselor indicated that she enjoyed being able to meet middle school counselors and discuss problems related to counseling with them. All participants felt that all teachers and administrators should be provided with the information via staff development inservice training workshops and building meetings. As a result of the summer institute, the high school guidance counselor arranged counseling sessions with eighth grade students and established a schedule with the elementary schools to speak to sixth and seventh grade students and teachers on career explorations and planning for the high school. In addition, the principal of Lawson-Marriott Elementary School organized his sixth and seventh grade into an instructional team approach where two teachers, the librarian, and the assistant principal worked with each grade and met weekly to discuss instructional activities and plan the following week's activities.

Summer Math and Science Institute

The writer scheduled four grade six and seven teachers to participate in a summer institute for mathematics, science, and gifted teachers from June 27-July 1, 1988 at Longwood College. This institute was sponsored by the Virginia State Department of Education. The teachers were recommended by their principals based upon interest and instructional performance. The teachers were paid a $400.00 stipend each. In addition, the school division paid tuition for them to receive three hours of graduate credit.

The institute emphasized the importance of using hands-on activities and the scientific process in the middle school mathematics and science classes. The teachers attended a variety of sessions conducted by national and state experts in mathematics, science, and gifted education. Both content and methodology were covered in the sessions. The writer spoke with the Director of Mathematics, State Department of Education, on August 5, 1988 concerning the institute. The director stated that evaluation reports indicated that the participants felt the institute was extremely beneficial. Teachers particularly liked the hands-on approach and developing materials that could be incorporated into local instructional programs.

The institute participants shared in the development of two documents: Field Trip Sites in Central Virginia for Science and Mathematics Classes and Grade 6-8 Sample

Plans for Mathematics Lessons. The two publications were edited and printed by the State Department of Education and then sent to each participant and every school division in December, 1988. (Appendix L: 153-157) The writer ordered additional copies for all teachers in grades 6-8 and he disseminated the documents to all principals in the December 14, 1988 administrative meeting. Both elementary principals indicated that many of the ideas included in the publications were shared with teachers during the inservice education workshops in September, 1988 by the institute participants. It was also indicated that field trip requests during the first semester included some of the recommended sites suggested in the field trip publication. In addition, the writer observed more hands-on activities in math and science instruction. This was also indicated in observation reports submitted by the principals.

This summer institute gave King and Queen County teachers in grades 6-8 the experience of sharing with other middle level teachers to develop strategies in math and science for middle grade students and also to participate in the development of two publications that were disseminated throughout the state to all middle and secondary schools.

New Elementary and High School Principals

The principals of King and Queen Central High School and King and Queen Elementary School resigned as of June 30, 1988. Their resignations were accepted by the school board on June 18, 1988. The high school principal resigned for health reasons and the elementary principal accepted another principalship with a surrounding school division. The superintendent gave the writer the responsibility to establish guidelines for interviewing candidates for these positions. The writer formed two committees, one for the high school and one for the elementary school. These committees consisted of parents, teachers, and an administrator. Applicants were initially screened by the writer, then sent to the committees. The writer met with the committees and discussed the needs of the school division, particularly with regard to the concern over the middle level program. He emphasized the need to employ principals with knowledge related to the needs of middle level students. As a result of this effort, the school board appointed two principals at its school board meeting on July 18, 1988.

Both candidates had strong credentials. For example, the high school principal is a Phi Beta Kappa graduate. She also taught grades 6-8, had extensive experience planning and conducting school-based staff development programs, and had been an assistant principal in both an elementary and middle school. The principal chosen for the elementary

school had taught in grades 5-7, served as an assistant elementary principal, had coached little league sports, and had served on various curriculum committees including chairing the development of a K-7 social studies curriculum guide.

The Middle School Course

The writer had a telephone conversation with the middle school course instructor on April 15, 1988. It was decided that the class would meet on a monthly basis beginning September 12, 1988 and would be held from 4:00 p.m. until 7:00 p.m. The instructor indicated that she would not require a text, but would provide copies of all information she considered important. She would require students to do a project concerning some aspect of the middle school concept that could be incorporated into the participants school. The instructor submitted a course outline with copies of handouts to the writer on September 7, 1988. (Appendix M: 148)

The writer spoke to all teachers and administrators at the opening of school inservice training workshop on August 29, 1988. He discussed the inservice education plans for the 1988-89 school year and re-emphasized the required middle school curriculum course for grade 6-8 teachers that would begin two weeks hence. He further stated that the school district would pay the full tuition of $240.00. Two

eighth grade teachers asked the writer if they could be excused from the course. These requests were denied. The teachers subsequently appealed to the division superintendent and were also denied permission not to enroll in the course.

The first class meeting was held in the library at King and Queen Central High School on September 12, 1988. Twenty-two grade 6-8 teachers were enrolled. In addition, all three principals, two elementary librarians, one high school librarian, two fifth grade teachers, two ninth grade science teachers, and one high school art teacher were enrolled. One sixth grade math teacher and one eighth grade science teacher informed the writer that they were taking the course "under duress" and did not feel that the class would be of benefit to them.

The writer called the course instructor on October 5, 1988 to discuss the progress of the class. The instructor indicated that she felt the first class went well and that most of the participants were interested in the material presented. She indicated that three classes would be held on Saturday mornings and asked if the writer could provide lunch. The writer agreed and provided snacks and lunch for the October 8, 1988 class. On Monday morning, the writer received a thank-you note signed by the entire class. (Appendix N: 162-164)

There was an administrative team meeting on October 10, 1988 at 9:30 a.m. at the school board office. Both elementary principals indicated that their teachers were very enthusiastic about the course, and both faculties had begun working on class projects and had started incorporating middle school concepts into the schools' programs. For example, one librarian had developed a study skills program, the Head teacher at Lawson-Marriott Elementary School was working on a project to incorporate pre-vocational courses, and the principal had developed a team teaching concept. The high school principal felt that more teachers could have benefitted from the course and wanted to know whether the instructor could be available for staff development during the school year. The writer indicated that this could be arranged.

The last class was held on November 21, 1988. The instructor invited the division superintendent and the writer to attend in order to hear the class presentations. The presentations dealt with useful ideas for incorporating the middle school concept into the school division. For example, an eighth grade teacher developed strategies to improve test-taking skills; the elementary teachers and administrators presented a proposal to incorporate interdisciplinary teaming and ideas to include exploratory courses. What was unique about the presentations was the fact that many of the concepts presented were already being

implemented. The superintendent wrote each principal a memorandum expressing his positive feelings about the class and the projects, and he encouraged the principals to continue incorporating the middle school concept into each school's program. (Appendix O: 165-166)

There were many activities implemented as a result of the course. For instance, the high school art teacher and an eighth grade English teacher incorporated the team teaching approach in developing an instructional unit on integrating language and art. The unit discussed how language and culture affected that art work of a particular period. (Appendix P: 167) The art teacher also submitted the project to Art Education for publication. (Appendix Q: 168)

The two elementary librarians became more involved in the instructional programs through attending grade level meetings and developing a study skills program for grades six and seven. The librarians became more accessible for middle level students, and the librarians indicated that the communication with teachers had improved after being involved in the class and in curriculum meetings where ideas were shared. The course therefore, provided opportunities for teachers and administrators to address unique problems and establish a foundation for positive interactions in the future.

Middle School Conference

The writer received notice on October 14, 1988 concerning the Conference for Middle Level School Educators to be held on November 16-18, 1988 at the Sheraton Charlottesville Hotel. (Appendix R: 169) The writer called each building principal to discuss the conference. Both elementary principals and the high school assistant principal expressed their desire to attend. The superintendent approved the requests on October 17, 1988.

The principals reported on the conference at the administrative team meeting on December 5, 1988. All three indicated that the conference gave them an opportunity to meet principals of middle schools and to discuss various concerns related to middle level education. However, both elementary principals stated that they were not exposed to any new information in this area. The assistant principal at the high school stated that this was probably due to the fact that teachers and administrators in King and Queen County had already been exposed to many of the concepts of middle school education through attending the various summer institutes, inservice training programs in the district, and the middle school curriculum course. The writer stated that the conference was important because it gave administrators an opportunity to listen to state and national speakers in middle level education and to reinforce the information gained locally concerning middle schools.

Progress Report to the School Board on Incorporating the Middle School Concept

The writer presented a progress report to the school board on November 15, 1988 at Lawson-Marriott Elementary School on incorporating the middle school program in King and Queen County. (Appendix S:170) He began the report by reviewing the Governor's Commission of Excellence Report which recommended restructuring the middle grades in the State of Virginia. After reviewing those recommendations, the writer presented and discussed the program changes and inservice training workshops that had occurred as of November, 1988. These included the following: changing from a self-contained to a team approach in grades six and seven; regularly scheduled grade level articulation meetings; the inclusion of a study skills program into grades 6-8; the middle school curriculum course held for grade 6-8 teachers and administrators; and the completion and implementation of curriculum guides for math and science.

The superintendent stated that the program changes in the middle grades had begun to address areas needing attention and he was pleased that the school division was making excellent progress in meeting the needs of this age group. The chairman of the school board stated that the school division was moving ahead in implementing some of the recommendations of the Governor's Commission on Excellence

and asked the writer to give a follow-up report in April, 1989 concerning plans for the 1989-90 school year of incorporating exploratory courses in foreign language and vocational education for grades six and seven. The two other school board members thanked the writer for the progress report.

Title II Demonstration and Exemplary Grant

In September, 1988 the writer received information from the State Department of Education concerning Title II Demonstration and Exemplary Grants. These are funds provided for innovative projects in math or science which could impact positively on education in the state. The writer received permission on September 16, 1988 from the division superintendent to proceed with the grant proposal. The writer met with the principals on September 19, 1988 to discuss ideas for the grant proposal. A review of achievement test scores indicated a need to focus on the area of mathematics in the middle grades. In addition, the writer met with the Professor of Mathematics Education, the College of William and Mary, to share ideas and to obtain suggestions concerning the proposed grant. Through these meetings it was decided that the project should focus on mathematics remediation in grades 4-9. Many of these students had scored low on the State Sixth Grade Literacy

Test in mathematics. For example, 75 percent of the sixth graders scored at the bottom 25th percentile in math. Teachers and administrators felt that many of these students had poor reading habits, short attention spans, and low self-images. Teachers in these grade levels need to develop effective means of combating the above problems and to provide remediation. The grant also focused on parents developing skills in understanding the low achieving adolescent and acquiring techniques of monitoring students and working with teachers.

The grant proposal was submitted to the school board for approval on October 18, 1988. The school board voted unanimously to approve the application. The grant application was approved on November 29, 1988 for an amount of $34,701.00. (Appendix T: 171-177) The project application period was established from December, 1988 to September of 1990. The writer met with the superintendent and the Professor of Mathematics Education from the College of William and Mary on December 6, 1988 at the school board office for the purpose of planning project activities. The meeting lasted for three hours. It was decided that the first orientation session for teachers and administrators would be held on January 20, 1989 at King and Queen Elementary School. The focus of the second semester would be working with teachers on the proper use of homework and integrating calculators into the curriculum. In addition,

planning would focus on a two-week inservice training workshop for teachers on developing skills to integrate and utilize diagnostic tests. It was also decided to have the parent workshops at each individual school in order to increase parental involvement.

Title II Project Implementation

The Title II orientation meeting was held on January 20, 1989 for 13 grade 4-9 mathematics teachers, the three building principals, the school psychologist, and the visiting teacher. The meeting was held in the reading laboratory at King and Queen Elementary School from 1:00 to 3:00 p.m. The purpose of the meeting was to explain the Title II Demonstration and Exemplary Project and to receive comments form the teachers as to what they perceived the problems to be in the math programs for the middle grades. (Appendix U:178)

The writer opened the meeting by introducing each participant and explaining the scope and purpose of the Title II Project. He introduced the project's math consultant from the College of William and Mary, who then presented the project's overview and led a sharing session on math instructional problems. Eight of the 13 teachers indicated that students had a difficult time remembering mathematical concepts learned from one day to the next. Four teachers stated that they experienced difficulty

grouping for instruction. The consultant addressed these concerns and indicated that future inservice training sessions would delve into the issues more extensively. He then distributed copies of a diagnostic math test and asked that the test be administered to all grade 4-9 students in order to determine what math errors students were making. The results would be used during a two-week summer inservice training workshop entitled, "Diagnostic Teaching of Mathematics". The training is scheduled for July of 1989.

The second Title II inservice training workshop was held on February 10, 1989 at Lawson-Marriott Elementary School. (Appendix V: 179) The math consultant from William and Mary collected the math diagnostic tests and answered questions from the teachers concerning the test. He then introduced a teacher from the James-City Williamsburg School District who had served as a member of the State Department Mathematics Task Force on the use of calculators in classroom instruction. He distributed hand-held calculators to all participants and gave a 45 minute presentation on using calculators in math instruction. He took the teachers through a series of activities with worksheets and the calculators. The participants asked numerous questions concerning the various operations of the calculators; they were also concerned about how and when this instructional tool should be utilized. The writer indicated that the consultant would visit classrooms, in about a month, to

offer additional assistance to both teachers and students.

The writer concluded the workshop by passing out inservice training evaluation forms. The responses indicated that teachers and administrators had positive reactions to the training. Ten of the 13 teachers rated the workshop as excellent, two rated it good, and one rated it as fair. All three building principals rated the training as excellent. The math consultant returned to the school division on March 17th and April 21, 1989. He observed math instruction with the calculators in various classes, taught lessons, and met with teachers to discuss his observations and to answer questions. The consultant met with the writer, at the conclusion of the meeting on April 21, 1989 at the school board office. He indicated that most teachers were utilizing the calculators and that students were responding extremely well to their use.

The writer spoke to the Lawson-Marriott Elementary School P.T.A. on May 2, 1989 at 7:00 p.m. He introduced Dr. Flanagan, the project's math consultant, who conducted a training session with grade six and seven parents invited to the meeting. There were 46 parents in attendance as well as 22 students. The consultant distributed hand calculators to the parents; with the use of an overhead projector, he took the parents through a series of exercises which were designed to familiarize them with the calculators. After the 45 minute training session, the writer and the consultant

led a discussion on how parents can assist students with homework. The discussion also focused on the developmental changes of the young adolescent and how these changes affect students. The meeting lasted for two and one-half hours. Four parents indicated that they had learned a great deal about how the calculators could assist in mathematics and about relating better with their children. This appeared to be the overall reaction from most participants which was acknowledged by their applause, nodding their heads in approval, and comments that were made at the conclusion of the P.T.A. Meeting.

Sixth Grade Technology Initiative

The Governor's Commission on Excellence in Education recommended in its 1986 report that Virginia increase its utilization of technology in the public schools. In response to this report, the Virginia General Assembly provided funds for the purchase of computers to be used in math and reading remediation for grade six students identified in the bottom quartile. One of the purposes of this initiative is to provide assistance with basic skills remediation related to the sixth grade Literacy Passport Test. The King and Queen County School District became eligible for computers and printers. The superintendent, after consultation with the writer, indicated to the Department of Education on

February 21, 1989 the selection of Apple Computers and printers under to Department of Education Technology Program. The school district received notification on March 9, 1989 that ten Apple IIGS Professional Systems and the printers would be shipped. The computers arrived on March 21, 1989.

To assist school divisions with microcomputer inservice training for middle level teachers, the Department of Education developed an inservice training workshop to train individuals who would be responsible for returning to their respective school divisions and providing local training for teachers. The writer selected a language arts specialist, one sixth grade math teacher, and both elementary principals to attends the workshop. The workshop was held on April 10-11, 1989 at the Sheraton Hotel in Fredericksburg, Virginia. The workshop was conducted from 8:30-4:00 daily. The purpose of this inservice training was to prepare a local team to either replicate or modify as needed, the training sessions for delivery to middle school teachers in relation to remediation needs. The team received hands-on training with the Apple IIGS hardware and software as well as information about model curriculum applications.

The writer met with the team on April 13, 1989 at Lawson-Marriott Elementary School. The meeting was held in the Chapter-I reading laboratory form 1:00-3:00 p.m. The team indicated that the training had been outstanding and

that they would work with each other during the next three weeks to prepare for the inservice training of the middle school teachers. They also expressed concerns about where the computers were to be housed and about funding for purchasing software programs. The writer indicated that one classroom at each school had already been designated as the computer lab, and that funds had been included in the 1989-90 school budget ($4,000.00) for software. He also indicated that the computers would be utilized to serve the entire middle school program once the needs of the sixth grade students requiring remediation had been identified and provided for. The computers were installed at both elementary schools on May 9, 1989.

Orientation for Up-Coming Eighth Grade Students to High School

The writer met with the high school principal and guidance counselor at 9:20 a.m. on February 9, 1989 to discuss the seventh grade orientation. It was decided that the guidance counselor could visit both elementary schools to pre-register seventh grade students for eighth grade and to discuss the high school programs. It was also decided that seventh grade orientation would be conducted on the same day for both elementary schools. In the past, separate days had been selected for each school.

The high school guidance counselor visited both elementary schools on February 27, 1989. The counselor distributed pre-registration forms to all seventh grade students and explained the high school course offerings as well as the registration procedures. The students asked many questions concerning class requirements, grade policies, and student activities. The students were told that the forms had to be signed by their parent and returned to school by March 17, 1989. Seventy-eight percent of the pre-registration forms were returned by that date.

Orientation for all seventh graders was held on May 5, 1989 at the high school. The orientation program began at 9:30 in the morning with welcoming remarks by the high school principal. She introduced the guidance counselor and SCA president, who also spoke. After their presentations, the students were escorted on a tour of the school. They were divided into four groups. Each group was led by one teacher with the assistance of four eighth and ninth grade students. After the tour, students met in small groups with teachers and upper classmen for the purpose of asking questions. Lunch was served at 12:45, and the student returned to their respective schools at 1:30 p.m.

The high school principal reported, at the May 8, 1989 administrative team meeting, that 98 percent of the pre-registration forms for upcoming eighth grade students had been received. She indicated that the orientation had

positive results in that for the first time, high school teachers and students had participated in the program. Seventh grade students had been given the opportunity to meet their future teachers and to talk with older students about their views of high school life.

Achievement Test Administration and Middle Level Results

The writer met with all principals on March 2, 1989 to discuss and outline the procedures for administering the grade 1-11 national achievement tests. The writer discussed timelines for test administration and answered questions. The tests were administered on March 13-17, 1989. Students in grades 4-11 took the full battery of tests. Tests from each school were sent to the school board office where they were organized and mailed out for scoring. The tests were sent on April 10, 1989, and the results were received on May 5, 1989. The writer met with the superintendent and all building principals on May 9,1989 to discuss the achievement test results. The results indicated that achievement scores in grades 6-8 had increased from the 1988 school year. For example, sixth grade students scored at the 42nd percentile in 1989 for reading as compared to the 38th percentile in 1988; the 42nd percentile in math as compared to the 32nd in 1988; and at the 50th percentile in science as compared to the 45th percentile in 1988. Scores for grade seven and

eight also indicated that student achievement had increased since the 1988 test results. (Table 4) The achievement data was accepted with a great deal of enthusiasm. The Principal of King and Queen Elementary School responded that the inservice training programs which were held during the 1988-89 school year contributed to the increase in student achievement. The writer indicated that additional inservice training programs were planned for the Summer of 1989 for the purpose of further developing teachers' skills in diagnostic teaching in the areas of reading and math, and on using computer technology for remedial instruction in the middle grades.

Middle Level Education Week

The writer received a memorandum on March 9, 1989 pertaining to Middle Level education Week. The Governor of Virginia designated the week of March 12-18, 1989 as Virginia Middle Level Education Week. The purpose of the proclamation was to encourage educators and citizens of Virginia to become acquainted with school programs serving early adolescents. (Appendix W:180) The writer met with all building principals on March 10, 1989 to discuss plans for the week; he was encouraged that there were several activities scheduled at each school. For example, seventh grade students from King and Queen Elementary School visited

Lawson-Marriott Elementary School on Tuesday March 14th for an assembly on the "Battle of the Brains". After the assembly, the seventh grade students ate lunch together and briefly socialized before those students from King and Queen Elementary School returned to their school at 2:00 p.m. A seminar for grade 6-8 parents entitled, "Understanding and Working with Young Adolescents" was held at King and Queen Elementary School on March 16, 1989 from 7:00-9:00 p.m. The writer opened the program by discussing the middle level program initiatives from February 1988 to March 1989. This included a discussion on the middle school curriculum development, the Title II State Department Grant, and changes in the sixth through eighth grade structure. The high school guidance counselor presented an outline to the parents of the eighth grade schedule and led a discussion on parents working with teachers and how to understand the developmental changes occurring in young adolescents. The parents had many questions concerning working with their students and teachers and on helping students with homework. The program ended at 8:30 p.m. with a reception following in the cafeteria.

On March 16, 1989 an inservice training meeting was held at King and Queen Elementary School for all grade 6-8 teachers and administrators. The meeting began at 3:30 p.m. The purpose of the inservice training was to discuss the middle school activities and share experiences, concerns,

and ideas. The writer introduced the administrators and teachers and briefly reviewed the activities that had occurred during the 1988-89 school year. He also outlined plans for the 1989-90 school year. He indicated that middle level teachers would be trained for two weeks in July, 1989 on developing diagnostic techniques for math instruction, and also trained in utilizing computer education for working with middle level students. After the presentation, the writer showed a video of a March 2, 1989 teleconference entitled, "Teaming: Middle School Teachers Working Together". The video focused upon ways middle school teachers could work together to plan and deliver instruction in order to provide consistency for their students.

After the video, a question and answer period was held. There was much discussion among teachers and administrators concerning the year's activities. For example, one seventh grade teacher indicated that although she was reluctant at first about taking the middle school curriculum course, she was glad that the course that been offered. She shared that much valuable information was gained about adolescents and programs to meet their needs. Two other teachers also gave similar positive statements about the middle level inservice training. The writer asked teachers and administrators to hold monthly inservice training meetings at their respective schools to further develop programs to meet the needs of the middle school student. A reception was then held in the

cafeteria and the program concluded at 5:30 p.m.

Final Report to School Board on Middle Level Program

The King and Queen County School Board held its May 16, 1989 school board meeting at Lawson-Marriott Elementary School at 7:00 p.m. The writer presented the results if the middle school initiatives and plans for the 1989-90 school year. He discussed the March 1989 achievement test results. In comparing the 1989 test results with those of 1987, the writer indicated that improvements were noted in grades 4-11. The writer also discussed the implementation of curriculum guided for science and math in the middle grades and the inservice training workshops held during the 1988-89 school year.

The school board chairman asked whether there were future plans to restructure the middle grades. The writer indicated that he had met with both elementary principals on May 5, 1989 to discuss program changes and teacher assignments for the following school year. Three sixth and seventh grade teachers would be re-assigned to different grade levels based upon recommendations from the principals and after discussions with the teacher involved. The writer further indicated that grades six and seven would continue to utilize a team approach where two teachers would be assigned to sixth grade and two teachers assigned to

seventh grade at each elementary school. The two teachers at each grade would share responsibility for instruction in all academic areas. In addition, there will continue to be one teacher assigned to teach eighth grade math, one assigned to teach eighth grade science, and another teacher will teach only eighth grade English. The writer concluded his report by thanking the school board for its support of the middle level initiatives. He asked the board for continued support as the school division continued to develop their middle school program. The school board chairman thanked the writer for his report.

Summary of Action Component for the Middle School Program

The Major Applied Research Project action components were implemented as proposed in the implementation design. The success of this implementation was due to a number of factors. The Virginia Department of Education was very supportive in assisting the writer with developing and implementing curriculum guides in the areas of math and science. The State Department Supervisors for Math and Science were extremely helpful in providing leadership for working with the curriculum committees, keeping timelines, and critiquing sections of the curriculum guides. The consultants also conducted inservice training workshops with middle level teachers on the implementation of the completed

curriculum guides. The elementary and high school principals provided important leadership to the program through their support for the middle school staff development program. The principals observed classroom instruction, provided space and refreshments for the inservice training workshops, and gave comments about program implementation.

Fundamental to the successful implementation was the fact that the King and Queen County School Board provided both moral and financial support. The board gave its approval at the February 1988 school board meeting to the middle school staff development program. The board also provided funds for inservice training, stipends for teachers working on the curriculum guides, and funds for travel which enabled teachers and administrators to visit other middle schools and attend middle school conferences. Further, the school board approved the writer's filing the Chapter II and Title II Grant applications which resulted in additional funds for the middle school staff development program.

Chapter 6

EVALUATION OF RESULTS AND PROCESS

Presentation Analysis and Interpretation of Major Applied Research Project

This Major Applied Research Project was designed to improve the achievement of students in grades 6-8 in the King and Queen County Public School Division through developing and implementing a middle school program. The evaluation data presented on the following pages indicate that achievement scores increased in grades 6-8 in all content areas from March 1988 to March 1989 with the exception of sixth grade language arts. (Table 4) Further, the research project contributed to the development and implementation of curriculum guides in math and science for grades 6-8. The Major Applied Research Project also contributed to an increase in the skills and understanding of teachers and administrators on the developmental needs of early adolescents and increased their knowledge of instructional strategies appropriate for the middle grade levels.

The evaluation process included a comparison of achievement scores for middle grade students (6-8) after project intervention was begun in February, 1988 with 1989 achievement scores. The writer also evaluated the number of students in grades 6-8 who made at least a ten percentile

point increase in each content area from 1988 to 1989. In addition, an analysis was made of the change in teacher and administrative instructional skills in working with middle level students as a result of participating in the middle school curriculum course and other inservice training activities. The following terminal and intermediate objectives guided the research project process:

Terminal Objective No. 1

As a result of implementing a middle school program from February 1988-June 1989, sixth grade achievement scores will increase, in reading, mathematics, language arts, social studies, and science by at least ten percentile points as measured by the Iowa Test of Basic Skills. The writer believes that a ten percentile point increase is realistic because the curriculum to be implemented will be designed to meet the needs of middle school students.

Results of Terminal Objective No. 1

Analysis of the evaluation data indicated that during the intervention period, February 1988-June 1989, sixth grade reading achievement increased from the 32nd percentile in March 1988, to the 42nd percentile in March 1989; math scores increased from the 40th percentile to the 42nd percentile; language arts achievement decreased from the

54th percentile to the 50th percentile; social studies achievement increased from the 37th percentile to the 45th percentile; and science scores increased from the 45th percentile to the 50th percentile. (Table 4) In addition, analysis of individual students who achieved at least a ten percentile point increase in the various content area subjects revealed the following information. Sixty-three percent of the sixth graders, 45 out of 71 students, made at least a ten percentile point increase in reading, 35 percent made the increase in math, 37 percent in language arts, 66 percent in social studies, and 61 percent achieved the increase in science. (Table 5)

Terminal Objective No. 2

As a result of implementing a middle school program from February 1988 - June 1989, seventh grade achievement scores will increase in reading, language arts, mathematics, social studies, and science by at least ten percentile points as measured by the Iowa Test of Basic Skills. The writer believes that a ten point increase is realistic because the curriculum that will be provided during the project's implementation will meet the needs of the middle school student.

Results of Terminal Objective No. 2

Analysis of the evaluation data for the second objective indicated that seventh graders made achievement gains in all content areas during the intervention period from February 1988 - June 1989. For example, reading achievement increased from the 38th percentile in 1988 to the 48th percentile in 1989, math increased from the 32nd percentile to the 41st percentile, language arts scores increased from the 46th percentile to the 49th percentile, social studies increased from the 39th percentile to the 40th percentile, and science scores increased from the 45th percentile to the 52nd percentile. (Table 4) In addition, analysis of individual seventh grade students who achieved at least a ten percentile point increase in the various content areas indicated that 49 percent or better, in each subject area, improved their performances from 1988 to 1989 by such a margin. (table 5)

Terminal Objective No. 3

As a result of implementing a middle school program from February 1988-June 1989, eighth grade achievement scores will increase in reading, language arts, mathematics, social studies, and science by at least ten percentile points as measured by the Iowa Test of Basic Skills. The writer believes that a ten percentile point increase is

realistic because he will implement a curriculum designed to meet the needs of middle school students.

Results of Terminal Objective No. 3

Analysis of the evaluation data indicated that during the intervention period of the research project, eighth grade reading achievement increased from the 33rd percentile to the 51st percentile, math scores increased from the 35th percentile to the 45th percentile, language arts increased from the 44th percentile to the 45th percentile, social studies increased from the 33rd percentile to the 36th percentile, and science scores increased from the 39th percentile to the 51st percentile. (Table 4) Further, analysis of individual student performances indicated that 51 percent of the eighth graders improved their reading achievement by at least ten percentile points, 40 percent made the ten point increase in math, 35 percent in language arts and science, and 26 percent of the eighth graders improved achievement in social studies by at least ten percentile points. (Table 5)

Table 4

Percentile Differences in Achievement on the Iowa Test of Basic Skills (ITBS) for Students During 1988 and 1989

Year	Grade	Reading	Math	Lang. Arts	Social Studies	Science
1988	5	32	40	54	37	45
1989	6	42	42	50	45	50
Percentile		----	----	----	----	----
Difference		+10	+2	-4	+8	+5
1988	6	38	32	46	39	45
1989	7	48	41	49	40	52
Percentile		----	----	----	----	----
Difference		+10	+9	+3	+1	+7
1988	7	33	35	44	33	39
1989	8	51	45	45	36	51
Percentile		----	----	----	----	----
Difference		+18	+10	+1	+3	+12

Table 5

Number and Percent of Students in Grade Six Through Grade Eight Who Increased Achievement Scores on the ITBS by at Least Ten Percentile Points from 1988 to 1989

Grade	Student Count	Reading		Math		Lang Arts		Social Studies		Science	
		#	%	#	%	#	%	#	%	#	%
6	71	45	63%	25	35%	26	37%	47	66%	43	61%
7	55	29	53%	37	67%	28	51%	27	49%	33	60%
8	43	22	51%	17	40%	15	35%	11	26%	15	35%

Intermediate Objective No. 1

As a result of implementing a middle school program from February 1988 - June 1989, school librarians will participate in grade level meetings and curriculum development meetings as evidenced by written reports of these meetings submitted to the Assistant Superintendent.

Results of Intermediate Objective No. 1

The three school librarians submitted end of the year media reports to the writer on May 8, 1989. They all indicated that they had participated in a series of curriculum level meetings including grade level meetings, departmental meetings, inservice training workshops, and the middle school curriculum course. The report from the high school librarian indicated that as a result of participating in the middle school curriculum course, she had established a professional section in the library which focused on the early adolescent student. The librarians increased involvement in curriculum planning was quite noteworthy. The first intermediate objective was accomplished.

Intermediate Objective No. 2

As a result of implementing a middle school program from February 1988 - June 1989, curriculum committees will be formed to complete curriculum guides in math and science.

These curriculum guides will be implemented into the curriculum as evidenced by inservice training workshops and by observation/evaluation reports submitted by building principals to the Assistant Superintendent for Instruction.

Results of Intermediate Objective No. 2

Curriculum committees finished math and science curriculum guides during July of 1988, and the guides received school board approval on August 16, 1988. The State Supervisors of Science and Math conducted inservice training workshops on September 1, 1988. The curriculum guides were presented to all grade 6-8 math and science teachers. The consultants demonstrated various teaching strategies and discussed how the completed curriculum guides should be utilized in the instructional program. The classroom observation reports submitted by the principals indicated that more hands-on activities in both math and science were evidenced. In addition, the principals noted that lesson plans were coded to the curriculum objectives and that they provided a better focus upon which to evaluate the instructional programs.

Intermediate Objective No. 3

As a result of implementing a middle level program from February 1988-June 1989, grade 6-8 teachers, administrators,

and librarians will acquire knowledge of human growth and development related to the early adolescent student and increase their knowledge of the instructional strategies of grouping for effective instruction, teaching study skills, involving students in their own learning, and teaching critical thinking skills as evidenced by participation in inservice training workshops, completion of a middle level curriculum course, and by implementation of strategies as documented in observations and evaluations conducted by building principals and central office personnel.

Results of Intermediate Objective No. 3

A middle school curriculum course was held from September-December 1988 at King and Queen Central High School. This course was attended by all grade 6-8 teachers, librarians, and administrators. The course covered effective instructional strategies for the middle grades and also emphasized various strategies including cooperative learning and grouping for effective instruction. In addition to the class, inservice training workshops were held on integrating literature into content areas. Implementation of the strategies learned was monitored by all three principals. Besides the classroom observations conducted by the principals, the consultants from the inservice training workshops returned to the district to observe the implementation of strategies within classrooms and to provide

additional assistance to teachers. The development and implementation of the curriculum guides, the completed middle school curriculum course, and the other inservice training activities conducted contributed to the successful completion of the intermediate objectives.

Summary of Objective Results

The terminal objectives results indicated that the middle school program had a positive impact on student achievement. For example, students in grades six through eight made achievement gains in reading, math, social studies, and science. In addition, all three grade levels accomplished achievement gains that were at or above the projected 10 percentile points in the area of reading. Only sixth grade scores in language arts declined during the project's intervention period.

The three intermediate objectives were completely achieved. For example, teachers. librarians, and administrators participated in a series of inservice training activities where they developed skills in working with middle school students. The librarians increased involvement in curriculum planning and in meeting with middle grade teachers on a regular basis not only improved the relationship between the two groups but provided the necessary interaction that improved the quality of selecting

media materials for the middle grades. This increased interaction and involvement also improved the scheduling of library activities for the middle grade students.

The development and implementation of grade 6-8 curriculum guides in math and science provided the beginning for curriculum revisions needed in the middle grades. Test scores indicated that achievement had increased in both math and science. Seventh grade math scores increased by nine percentile points and eighth grade scores increased by ten points. Sixth grade science scores increased by five percentile points, seventh grade scores increased by seven points, and eighth grade science achievement improved by 12 percentile points. (Table 4) Finally, the Middle School Curriculum Course provided the opportunity where teachers and administrators interacted, shared ideas and experiences, and gained knowledge in working with middle level students. The course focused on many concerns and ideas presented in prior inservice training workshops in an environment where teachers and administrators were able to further develop their skills in middle school education with particular emphasis on working effectively with middle school students.

Side Effects of the Major Applied Research Project

The side effects of the research project were interesting and exciting. In addition to the increased

achievement scores in grades 6-8 from 1988 to 1989, the inservice training activities included the involvement of teachers from grades 10 and 11. For example, two grade 10 and 11 English teachers and one 11th grade science teacher completed the middle school curriculum course. Further, the two English teachers also participated in the literature workshop. The high school art teacher, who also took the middle school curriculum course, proposed to the writer that the school district incorporate Exploratory Art for eighth grade and special education students into the curriculum. She felt that for these students, art could serve as a link for other academic disciplines. This recommendation was discussed with the high school principal and approved by the division superintendent in April, 1989.

The school board, in considering plans to restructure the middle grades, decided to undertake a building and renovation plan for both elementary schools. These plans were submitted to the county Board of Supervisors and approved. The plans call for the closing of one school building, an addition to the current Lawson Elementary School, and renovation of King and Queen Elementary School. Additional space will be added to both elementary schools in order to accommodate science laboratories and gymnasiums. Construction is anticipated to begin by June of 1990.

The three building principals participated in the middle school curriculum course, the Title II demonstration

grant inservice training workshops, and all sharing sessions with grade 6-8 teachers. The principals also participated in the school division curriculum meetings where in the past only teachers had been in attendance. These inservice training activities also provided administrators and teachers opportunities to share ideas and plan together for program improvements.

The chairperson of the high school science department, who had worked with the middle school science program during the research project's implementation, made a presentation at the National Association of Biology Teachers Annual Conference in Chicago during November, 1988 and at the Virginia Middle School Association Conference on March 9-11, 1989. (Appendix X: 181-184) The title of his presentation, "Cheap, Fun, and Easy Ways to Motivate Low Achievers", was a spin-off of the middle school inservice training activities conducted during the research project's implementation.

Finally, prior to March of 1988 the high school guidance counselor had been working very closely with the elementary teachers and principals because neither elementary school had a counselor. Although the school district had recognized a need for elementary counselors in the past, previous recommendations for these positions had never been approved. After completion of the inservice training sessions on the developmental needs of young adolescents, the school board approved the recommendation made by the

superintendent to have guidance counselors at both elementary schools.

Appropriateness and Effectiveness of Solution Strategies

The writer felt that the solution strategies implemented were very appropriate and effective. One of the first strategies was the establishment of inservice training programs to increase teacher and administrative knowledge of varied and effective instructional practices for middle level students as well as to increase their awareness of the developmental characteristics of young adolescents. The first inservice training workshop held on February 16, 1988 involved all middle grade teachers. This workshop entitled, "Teaching Effective Study Skills", was presented by two reading specialists in the school division. Teacher evaluations of the inservice were extremely positive. The principals established procedures for teachers to visit other classrooms to observe the strategies being taught. This method proved to be very effective in that it motivated teacher participation and provided opportunities for the teachers to assist one another.

The middle school curriculum course which was held at the high school from September-December 1988 was extremely successful. The school division paid the full tuition of $240.00 for each participant. Not only did all teachers in

grades 6-8 enroll, but three building principals, two ninth grade science teachers, and the three school librarians enrolled as well. The interaction that transpired between teachers and administrators proved to be very beneficial. The writer and the division superintendent participated in the final class meeting and heard presentations on how to incorporate the various strategies learned into the middle grades. Many of the ideas presented have been incorporated into the middle level programs. For example, instructional packages were designed to assist students in test-taking skills; these packages are now used by grade six and seven teachers. Also, the elementary administrators have established interdisciplinary teaming into the curriculum.

The librarians participation in grade level activities and in the middle school curriculum course have also proved beneficial to the research project. Teachers had expressed concerns about the quality of library research for middle level students. Through participation in the inservice training programs, the librarians had an opportunity to share ideas and concerns with teachers and administrators. Together, they planned for the needs of the middle grade students. The writer provided and additional $3,000.00 per school through Chapter II funds for the purchase of appropriate media materials for the middle grades.

The development and implementation of curriculum guides in grades 6-8 math and science provided the opportunity to integrate the strategies in the curriculum guides with the basal math and science textbooks. Teachers were involved in the development of the curriculum guides with the assistance of the Virginia Department of Education.

Finally, the grade 6-8 articulation meetings were extremely important because they provided opportunities where teachers and administrators were able to plan together various programs to meet the needs of the middle level students. The sharing sessions held at King and Queen Elementary School and at Lawson-Marriott Elementary School were quite effective. The writer used these meetings not only to report on the ongoing activities and present information about upcoming events, but he received comments and suggestions from teachers concerning the middle school program. This turned out to be an effective mechanism for keeping concern about the middle school program in the forefront of the the school division.

Data gathered through the research of the literature was also useful in planning and implementing this research project. For example, Sirotnik (1983) indicated that the traditional instructional approach for adolescents had been based on whole group instruction, lecture, independent seatwork, and homework. His study indicated that this is not the most effective means of meeting the needs of these

students. Dorman, et. al.(1985), stated in their research that schools should take into account the developmental needs of young adolescents and design and implement programs that encourage positive adolescent learning and growth. George and OlDaker (1986) studied middle schools in 34 states to determine how to change the structure of schools to meet the needs of middle school students. One hundred thirty schools participated in the study. The results indicated that over 90 percent of these schools organized teachers and students into interdisciplinary teams instead if self-contained classrooms, 94 percent used flexible scheduling, and 95 percent had written curriculums based upon the students developmental needs. Strahan(1986) found in his study that practices such ad rote teaching of basic skills, lecturing,, and exercises that were repetitive focused on a limited view of the adolescent's potential for learning. Slavin (1983) found in his study on low achieving middle grade students that cooperative, small group instruction, and active participation by both teachers and students are important elements of effective instruction.

The writer was able to utilize this research data in designing and implementing inservice training programs and for developing the curriculum guides. For example, the middle school curriculum course emphasized programs for the middle student, and it focused on the developmental aspects of these students with emphasis on interdisciplinary teams.

The inservice training workshops on integrating literature into the curriculum and teaching study skills focused on the teacher-student relationship and cooperative learning strategies. Finally, the research literature was extremely helpful in designing and implementing the math and science curriculum guides for grades 6-8.

The situation analysis completed in Chapter 3 was very helpful to the research project's planning and implementation. The King and Queen County Six Year Improvement Plan, which emphasized the concern for improvements in reading, mathematics, social studies, and science achievement, was used throughout the research project implementation process as the focus for the inservice training workshops, curriculum development, and the middle school curriculum course. In addition, the Virginia State Department of Education's Standards for Accrediting Schools in Virginia were helpful in the implementation process because they also focused on middle school programs as they related to academic and developmental needs of the students. The writer utilized the accreditation standards in meetings with the building principals in stressing the need to improve programs in the middle grades.

The Governor's Commission on Excellence in Education released its report in October of 1986. The report was also helpful to the research project's implementation as it established a framework for improving middle level education

in Virginia. The Commission recommended that the Department of Education begin to restructure education in the middle grades. The Supervisor of Middle Schools at the State Department of Education, who served as a consultant on the Commission on Excellence, worked very closely with the writer in developing the inservice training programs, and he made numerous, positive recommendations during the implementation process.

Finally, the writer believes that the planning and implementation of the major applied research project was excellent. The data collected from interviews and observations presented valuable information about the attitudes and behaviors of teachers and administrators. Such data was also helpful for identifying the current status of the middle school programs. Data from the literature provided information which assisted in the development of the solution strategies. The inservice training programs were well planned and involved input from both teachers and administrators. The content presented was directly related to the identified probable causes, and the follow-up observations by principals, consultants, and the writer indicated that the strategies taught were being utilized in the instructional programs. The middle school curriculum course involved the participation of all middle level teachers, the three division principals, and the librarians. The participation provided an environment which

helped the writer in the successful implementation of the research project.

The Middle School Staff Development Program and Other School Districts

The writer feels that this major applied research project can be easily adapted to surrounding school districts. School administrators, as potential project managers, should acknowledge the following planning and implementation processes when developing and implementing a middle school staff development program:

1) Secure support from the school board and the superintendent.
2) Seek assistance from the Virginia State Department of Education.
3) Develop a commitment from teachers and administrators through involvement in project planning.

The school administrator should establish support and commitment for the middle school staff development project before the implementation process is begun. The writer found that the success of the project was made possible because he was able to convince the school board of its importance by presenting information concerning the needs of

the middle school students and by outlining what the focus of the inservice training was to accomplish as well as what financial support would be required. The support of the superintendent is also essential for the successful implementation because his/her support along with that of the school board sets the tone for other administrators and teachers by conveying the message that the project is worthwhile.

The project manager should also seek the support and assistance of the State Department of Education to provide help in developing curriculum guides and for conducting inservice training workshops. The State Supervisors of Math and Science will provide technical assistance free of charge and will guide the school administrator in developing the middle school improvement program. In addition, the inservice training program should focus on the developmental needs of middle school students and curricular activities to meet these needs. The school administrator should plan for the inservice training activities to develop teacher skills in such an approach. Lastly, teachers should be given numerous opportunities to share ideas, visit other classrooms both in and out of the school division, and to attend middle school related conferences.

Chapter 7

DECISIONS IN THE FUTURE

Middle School Program Maintained

The thrust of this Major Applied Research Project was to develop and implement a middle school program designed to improve the achievement of students in grades 6-8. At the onset of the research project in February 1988, the achievement scores in grades 6-8 for the 1985-1987 school years had declined, and the organizational structure of the school district was such that continuity did not exist in the middle grades. The needs of both teachers and students were not being met. The design of the research project was effective and met the needs of the instructional and administrative staffs in the school division. The writer organized a series of inservice training workshops for teachers and administrators which were successful in improving their instructional skills for working with the middle school student. In addition, the writer was successful in developing and implementing math and science curriculum guides for grades 6-8 with the assistance of consultants from the Virginia Department of Education.

These curriculum development efforts have been extremely useful as a beginning for providing direction and consistency to the middle level program. The enthusiasm displayed by the school board, teachers and administrators

for this project indicated that there is definitely strong support for the continued emphasis on programs for the middle grades. The writer feels that the success of this research project demonstrated that it should be maintained as an ongoing middle school improvement plan.

Follow-up Action

In the writer's opinion, the success of this research project draws attention to the fact that staff development activities should be an important component in the school district's Six Year Improvement Plan. This would be for the purpose of continuing efforts to enhance the instructional skills of middle level teachers in working with students who are on different instructional levels. Further inservice training activities should focus on strategies that offer support to teachers and administrators.

The school division is planning to renovate both elementary schools in order to accommodate grades 6-8 in a middle school concept. Teachers and administrators should be involved in planning the design of the proposed additions and have input into the instructional reorganization. The writer feels that it is also important to employ a middle school/secondary coordinator who can provide leadership and support to the middle school program.

Dissemination of Project

Two surrounding school divisions have requested copies of the grade 6-8 curriculum guides that were developed in math and science. The Supervisors of Science and Math for the Virginia State Department of Education were sent copies of the completed curriculum guides to use with other school divisions. Copies were placed on file in both the science and math curriculum libraries at the State Department of Education.

The chairman of the high school science department made presentations at the National Biology Teachers Conference in November, 1988 in Chicago, Illinois and at the State Middle School Conference in Charlottesville, Virginia in March, 1989. The title of his presentation was "Cheap, Fun, Easy Ways to Motivate the Low Achiever". The science teacher participated in the middle school curriculum course and used material from his class project in the presentations.

Major Applied Research Project Reimplementation

The writer feels that if the project were to be implemented again within the King and Queen County School District, grade five through nine teachers should be involved in the project design and implementation. By considering these grade levels, the district would focus on the early developmental needs of adolescents while at the same time incorporating a broader grade structure. The

writer would also provide more inservice training programs for building administrators especially with reference to managing student behavior in the middle grades. It was apparent that although principals were willing participants in all inservice training programs, more opportunities are needed for the principals to visit other middle schools and to attend state and national administrative workshops which focus on middle school programs.

This Major Applied Research Project afforded the writer the opportunity to develop his own leadership skills. The writer was able to analyze the problem by observing classrooms; interviewing teachers, administrators, and parents; and by utilizing past achievement test data. He then developed an implementation design that was extremely successful. The research process was helpful in improving the writer's ability to analyze an instructional problem and then plan and develop appropriate intervention strategies. The writer has also grown personally through the process as a result of working with administrators and teachers to improve the instructional program in the middle grades. He participated with them in the inservice training workshops where ideas were shared in a very cooperative atmosphere which was conducive to affecting positive changes. In conclusion, the research project has encouraged the effective articulation of identified problems and created a framework from which instructional and administrative personnel can work together to develop systematic solution strategies.

REFERENCES

Adelson, Joseph. "The Growth of Thought in Adolescence." Education Horizons, 61. Summer 1983, 156-162.

Alexander, William M., and Kenneth C. McEwin. "Middle Level Schools - Their Status and Their Promise." NAASP Bulletin, 69. January 1986, 90-93.

Applebee, Arthur N., Judith A. Langer, and Ina V.S. Mullis. Who Reads Best? Factors Related to Reading Achievement in Grades 3, 7, and 11. Princeton: Educational Testing Service, 1988.

Binko, James., and James Lawlor. "Middle Schools: A Review of Current Practices - How Effective are They." NAASP Bulletin, September 1986, 81-87.

Compton, Mary, F. "The Middle School Curriculum: A New Approach." NAASP Bulletin, May 1983, 39-45.

Dorman, Gayle. "Making Schools Work for Young Adolescents." Education Horizons, Summer 1983, 175-182.

Dorman, Gayle., Joan Lipsitz, and Pat Verner. "Improving Schools for Young Adolescents." Educational Leadership, 42. March 1985, 44-49.

"Excellence in Education: A Plan for Virginia's Future." The Report of the Governor's Commission on Excellence In Education. Richmond, Virginia. 19 October 1986.

George, Paul, S., and Lynn OlDaker. "A National Survey of Middle School Effectiveness." Educational Leadership, 43. Dec. 1985/Jan. 1986, 79-85.

Henson, Kenneth, T. "Middle Schools: Paradoxes and Promises." Middle Schools, 59. April 1986, 345-347

King and Queen County Virginia: An Economic Study. Area Development Department of Virginia Electric and Power Company. 1974.

King and Queen County School Board Policy Manual. Adopted 12 November 1984, 6-8.

Lawton, Edward, J. "True Middle Level Education - Keeping Student Characteristics in Mind." NAASP Bulletin, 71. November 1987, 115-116.

Lipsitz, Joan. "Educating The Early Adolescent." American Education, October 1981, 13-16.

Montague, Marjorie, and Michael L. Tanner. "Reading Strategy Groups for Content Area Instruction." Journal of Reading, 30. May 1987, 76-23.

Ratekin, Ned., et.al. "Why Teachers Resist Content Reading Instruction." Journal of Reading, 28. February 1985, 432-37.

Sirotnik, Kenneth. "What You See is What You Get - Consistency, Persistency, and Mediocrity in Classrooms." Harvard Education Review, 58. February 1983, 16-31.

Slavin, Robert, E. Cooperative Learning. New York: Longman, 1983.

Snyder, Thomas, D. Digest of Educational Statistics 1987 Washington D.C.: U.S. Government Printing Office, Center for Education Statistics, 1987.

Straham, David, B. "Guided Thinking: A Strategy for Encouraging Excellence at the Middle. Improving Schools for Young Adolescents." Educational Leadership, 42. March 1985, 44-49.

State Board of Education. Standards For Accrediting Public Schools in Virginia. Superintendent's Memo No. 116. Richmond, Virginia. 28 May 1987, p 6.

State Department of Education. Guidelines For Middle Schools In Virginia - Draft. Richmond, Virginia. 11 September 1987.